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EDUCATIONAL
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Including Teacher Training

Uniform Standards for Judging Teachers in South Dakota

WILLIAM A. COOK
University of South Dakota

THE custom of evaluating the services of teachers by means of some sort of score card, was instituted in Milwaukee in 1896. After 1900 the practice entered other city systems. Early schemes were naturally somewhat simple, but the work of Elliott, Boyce, and Clapp, begun about ten years ago, has given us more highly complicated devices, and has also aimed to place the selection and weighting of criteria on a more nearly scientific basis. The method of determining such matters varies, but the authority is mass judgment of experts, following the precedent set in establishing the Thorndike Penmanship Scale, and most of the scales for the measurement of English composition. The investigator decides upon a list of assumed qualities of merit in teachers, and asks supervisors to rank or weight those qualities according to importance. Another method has been to ask supervisors to select the dominant traits of their most successful teachers; relative weight of traits would then be a summary of these opinions. Studies in this field are continuing, and are likely to continue for some time.

Much has been written about it, the score card for teachers is not yet in general use. In 1914 Boyce discovered that it was still the almost unanimous practice to rely on the general unanalyzed judgment of some officer. In 1916, eleven of the thirty-two largest cities in the country used no rating form, and not over ten had any highly organized scheme. As an aid to the present report, superintendents in a hundred cities of 25,000 to 75,000, selected from all parts of the country, were asked to send in copies of their rating systems, and to answer eight brief questions. Replies have been received from thirty-two. Only about 50% of those replying had score cards to furnish, 35% reported none in use, and 15% reported their rating system in a state of formation or revision. The last group are using the aid of teachers in arriving at a plan.

The reason why the rating plan has not been more generally adopted are several. There is much uncertainty as to what captions or criteria should be included in a rating card. The number of points on cards used in well-organized systems varies widely. There is a general feeling that further light is needed as to the qualities most closely related to success in teaching. Skepticism, on the other hand exists as to the possibility of cutting up personality into a number of shreds. Some schemes are so heavy in administration, so complicated, that they have broken down of their own weight. Ratings have been kept secret from the teachers, and therefore have aroused the antagonism of many, at the same time without producing any improvement in the teaching staff. The plan has been carried out by the administration, without any participation by those who are rated. Old bases of promotion, such as experience or tenure, have a hold that is difficult to shake off. And finally, the war and higher living costs have left us with such a shortage of teachers that some superintendents frankly confess the impossibility of introducing any system of professional advancement according to professional merit, until the field of candidates for positions is large enough to permit elimination and choice.

This report is submitted with the idea that in a short time the supply of teachers will again be such that rating schemes may be generally used. Service in every sort of business is rated by those in charge, and rewarded as nearly as possible according to its deserts. That the public business is less efficiently done than private business is a necessary consequence of our failure to apply merit rating in public affairs. The teacher now is rated once a year by the school board, with the assistance of some very distorted notions formed by patrons. His protection and the welfare of the schools requires that the rating be done by professional people, connected with the school system, and possessing firsthand information of the matters to be decided. The judgment of these professional people, furthermore, ought not to be a general, unanalyzed, personal impression of a supervising officer, lest it also be occasionally somewhat distorted. The rating of a teacher ought to be a bill of particulars, a composite of judgments of different persons (if possible), formed at different times, and therefore freed from any great measure of prejudice.

One reason why we are justified in discussing a state plan of rating teachers is found in the attempt of our State Department of Public Instruction to operate a teacher placement bureau. The proper discharge of this function is impossible unless the State Department has definite, reliable, and comprehensive data as to the merits of great numbers of teachers. In fact, the ideal in placement can be reached only when the State Department has on file such data regarding every teacher in the state. It now happens that those teachers are most likely to be promoted who give most attention to securing better places, while the most faithful and efficient, who do the work of each day without reference to personal recognition, remain unrecognized, and at last retire with the conviction that "Merit does not win in teaching." Our state machinery for promoting teachers can not be made inclusive without an army of inspectors, and that is lacking. The substitute program is a uniform method of rating teachers, so that superintendents shall be speaking a common language, when they endorse teachers to the State Department or to each other. The endorsements now submitted in behalf of teachers come too often from those who know little about the ones endorsed, and they frequently omit the things we most wish to know.

Before attempting to present a rating plan adapted to South Dakota conditions, we may remark upon the attitude taken toward rating plans where they are in use, and a few of the administrative questions that arise in that connection. Most of the systems using a score card for teachers report that the teachers are friendly to it. Of sixteen cities reporting on this, only two indicate general opposition or skepticism on the part of the teaching force. This is not strange. No plan can long survive in a system if the teachers are opposed to it. No doubt the absence of a rating card in many systems is a result of the unfavorable attitude of the teachers.

Principals are nearly unanimous in support of rating teachers, although some very much dislike the responsibility of carrying it out. A few are disposed to be lenient. One principal discovered a very close correspondence between his ratings and those assigned by the teachers to themselves. This correspondence was less impressive when it was discovered that 98% of his ratings were of the highest degree on a scale of five steps. The use which ultimately is made of the ratings goes far toward fixing the principal's attitude. If they count for much in retention and promotion, he will be uncomfortably conscious of the responsibility entailed, and may tend toward leniency. If they count for little, he will regard energy so expended as, for the most part, labor lost.

The custom of placing the rating card in the hands of the teacher is almost universal. A few think that the teachers make very little use of it, but that fact is no reason why they should not know in what respects they are being judged. Surely in no way can a teacher better direct his efforts toward improvement than by knowing what matters are regarded as of importance. It is true, a supervisor can suggest these in conference, but understanding can be made more certain by giving the teacher a copy of them, and then adding any explanatory statement. It may also happen that several weeks pass after a teacher enters a system before he is rated. From the beginning he should be in possession of a specific guide as to what is expected, so that he may be working toward it.

The majority of the schools now give the teachers their ratings. Some give out ratings only when the teachers ask for them. A few inform teachers whose markings show deficiencies, and some do not inform them at all. Scarcely could there be found a better means of destroying the confidence of the teachers and alienating their support than that of keeping them in ignorance of their own standing. The same course logically carried out would prevent a supervisor from informing a teacher of any failings, and from making to him any suggestion for betterment. If the ratings are worth anything, they are worth imparting to the teacher. Rating is more than an inspectorial device for measuring efficiency; it is a supervisory device for increasing efficiency.

A small majority of the schools now using a rating system appear to be asking the teacher to rate himself. This is the sort of self-examination that teachers ought always to be conducting if they are to attain their full professional stature. It is far easier to call a teacher's attention to a defect of which he is already conscious. Half the battle comes in seeing one's own faults, for in a strict psychological sense we do not know we have a fault until we have seen it ourselves. It is very probable too that some teachers will discover matters concerning themselves which a supervisor would not discover. Self-rating of the teacher when compared with the rating given by the supervisor, will broaden the viewpoint of both parties, and in the absence of dogmatism and prejudice will result in a fairer estimate.

The freqency of rating in city systems varies from once per year to four times per year. An annual rating is not effective in the improvement of a weak teacher; it is too slow. On the other hand, four ratings per year, if done with care and comprehensiveness, will tax the administrative machinery. The semi-annual rating seems to share measurably the merits of both extremes, and to avoid their most serious drawbacks. In view of the growing practice of electing teachers in the late winter or very early spring, it seems necessary to complete a second rating by the close of about the sixth month of school, if the rating is to weigh in retention and promotion. A rating of teachers new to the system should be attempted first, and, outside of rural schools, completed by the end of the second month. The second rating should be given new teachers about four months after the first. Such an interval affords an opportunity for constructive supervision to show its effect. The ability of a teacher to take suggestions comes out clearly. The objective results of pupil attainment also will begin to show.

Old teachers can be rated more quickly, and perhaps a single rating for the year will be sufficient. For those whose work is already well known, not all points need be covered again. Teacher rating is a phase of supervision, and intelligent supervision does not distribute itself equally over the whole system.

Information from a number of schools shows decreasing confidence in the judgment of a single person. A combination of judgments of superintendent and principal, of principal and special supervisors, or of all three (superintendent, principal, and special supervisors), is much preferred. Some systems combine the judgments of superintendent and principal with the self-rating of the teacher. One system is considering a combination of the judgments of superintendent, principal, and a rating committee of two or three teachers. A plan recently described by Professor Twiss creates two rating boards, one of supervising officers, and another of representatives of the classroom teachers of the building.* Some regard this as very dangerous. The propriety of giving teachers a share in determining the form of the score card is not to be questioned, but their services in rating one another need investigation before being conceded. Of this we may be certain: much of the opposition to teacher rating is traceable to the fact that it has been totally superimposed.

The proportionate weight of the judgments of different parties in arriving at a final estimate is not accurately described by the schools reporting. Very probably there is no set plan. There ought to be sufficient agreement between the different estimates on a teacher, so that the question of proportionate weight of judges will make but little difference in the final rating. If wide differences appear, they should be reduced by conference, and a better understanding of the plan. The very existence of such differences is an indication that the plan lacks objectivity.

The relation of rating to retention and promotion is limited by tenure laws and regulations of long standing. Nevertheless, both retention and promotion are now based upon the merit system in a number of places.

In ten score cards taken at random, the least number of qualities to be scored is three, and the highest is thirty-seven. A decision as to the number of points to be rated rests upon the strength of the supervisory force in relation to the number of teachers, and the possibility of settling upon elements that can be defined and that do not greatly overlap. The three forms suggested below for use in South Dakota are offered in an effort to arrive at something mathematically simple, based upon criteria that are free from ambiguity, exclusive of each other, and not too difficult or numerous to be carried by the supervisor.

---

*School & Society, 9: 748-56.

CARD A—FOR COUNTY SUPERINTENDENTS

Name of teacher (in full) ....
Date and length of inspection ....
Grade (or grades) being taught ....
Subjects observed ....
Number of pupils in the room ....
Number of previous inspections (if any) ....
Name and official position of scorer ....
Final score ....

	Excellent	Strong	Average	Weak	Failure
I. Scholarship:					
1. Years residence schooling above 8th grade					
2. Knowledge of subject to be taught					
3. Use of oral English					
II. Professional spirit and training:					
1. Grade of certificate					
2. Years previous experience					
3. Continuing preparation past year					
III. Teaching ability:					
1. Clearness of assignment					
2. Habit of supplementing text					
3. Facility and form of questioning					
4. Ability to clinch points					
5. Illustrations and concrete material used in teaching					
6. Alertness and interest of class					
IV. School management:					
1. Discipline					
2. Economy of time in arranging, distributing and collecting materials					
V. Material conditions:					
1. Lighting (within limits set by building)					
2. Ventilation (within limits set by building)					
VI. Personal equipment and appearance:					
1. Health					
2. Cheerfulness					
VII. Extra-mural efficiency:					
1. Freedom from criticism as to company or habits					
2. Willingness to contribute to social life of community					

CARD B—FOR SYSTEMS OF 6-12 TEACHERS

Name of teacher (in full) ....
Date and length of inspection ....
Grade (or grades) being taught ....
Subjects observed ....
Number of pupils in the room ....
Number of previous inspections (if any) ....
Name and official position of scorer ....
Final score ....

	Excel-lent	Strong	Aver-age	Weak	Fail-ure
I. Scholarship:					
1. Years residence schooling above 8th grade					
2. Knowledge of subject to be taught					
3. Use of oral English					
4. Use of written English					
II. Professional spirit and training:					
1. Grade of certificate					
2. Years previous experience					
3. Continuing preparation past year					
4. Capacity to conduct experiments and investigations in methods and measurements					
III. Teaching ability:					
1. Clearness of assignment					
2. Habit of supplementing text					
3. Facility and form of questioning					
4. Ability to clinch points					
5. Illustrations and concrete material used in teaching					
6. Alertness and interest of class					
7. Freedom of response by class					
8. Evidence of preparation by class					
IV. School management:					
1. Discipline					
2. Economy of time in arranging, distributing and collecting materials					
3. Accuracy and punctuality of reports					
V. Material conditions:					
1. Lighting (within limits set by building)					
2. Ventilation (within limits set by building)					
3. Hygienic seating of pupils (within limits set by furniture)					
VI. Personal equipment and appearance:					
1. Health					
2. Cheerfulness					
3. Ability to win pupils' confidence					
VII. Extra-mural efficiency:					
1. Freedom from criticism as to company or habits					
2. Willingness to contribute to social life of community					
3. Acquaintance with parents and homes					

CARD C—FOR SYSTEMS OF OVER 12 TEACHERS

Name of teacher (in full) ....
Date and length of inspection ....
Grade (or grades) taught ....
Subjects observed ....
Number of pupils in the room ....
Number of previous inspections (if any) ....
Name and official position of scorer ....
Final score ....

	Excellent	Strong	Average	Weak	Failure
I. Scholarship:					
1. Years residence schooling above 8th grade					
2. Knowledge of subject to be taught					
3. Use of oral English					
4. Use of written English					
5. General knowledge outside of fields taught, current events, etc.					
II. Professional spirit and training:					
1. Grade of certificate					
2. Years previous experience					
3. Continuing preparation past year					
4. Capacity to conduct experiments and investigations in methods and measurements					
5. Contributions to professional literature and discussions					
III. Teaching ability:					
1. Clearness of assignment					
2. Habit of supplementing text					
3. Facility and form of questioning					
4. Ability to clinch points					
5. Illustrations and concrete material used in teaching					
6. Alertness and interest of class					
7. Freedom of response by class					
8. Evidence of preparation by class					
9. Correlation of class work with other subjects and pupils' outside interests					
10. Recognition of individual differences among pupils					
IV. School management:					
1. Discipline					
2. Economy of time in arranging, distributing and collecting materials					
3. Accuracy and punctuality of repoprts					
4. Ability to keep pupils busy					
V. Material conditions:					
1. Lighting (within limits set by building)					
2. Ventilation (within limits set by building)					
3. Hygienic seating of pupils (within limits set by furniture)					
4. Neatness and cleanliness of room					
VI. Personal equipment and appearance:					
1. Health					
2. Cheerfulness					
3. Ability to win pupils' confidence					
4. Neatness and appropriateness of dress					

VII. Extra-mural efficiency:
  1. Freedom from criticism as to company or habits
  2. Willingness to contribute to social life of community
  3. Acquaintance with parents and homes
  4. Co-operation with colleagues and administration

On the back of each score card, the following instructions will be identical:

INSTRUCTIONS FOR SCORING

1. A rating on any heading is given by making a cross (x) in the appropriate column.

2. Confine ratings to the columns headed *Strong, Average,* and *Weak,* except according to the following instructions:

I.—1. *Excellent*—6 years or more; *Strong*—5 years; *Average*—4 years; *Weak*—3 years; *Failure*—2 years or less.

II.—1. *Excellent*—Life professional; *Strong*—State; *Average*—1st grade; *Weak*—2nd grade; *Failure*—Below 2nd grade.

II.—2. *Excellent*—4 years or more; *Strong*—3 years; *Average*—2 years; *Weak*—1 year; *Failure*—No experience.

II—3 (Do not rate on this point teachers in school the preceding year). Forms of continuing preparation considered are summer school, attendance at State Education Association, completed extension work at reputable institution, evidence of professional reading. *Excellent*—all 4 of above forms; *Strong*—any three of them; *Average*—any two of them; *Weak*—any one of them; *Failure*—none of them.

VI—1. *Excellent*—no loss of time during past year from personal illness; *Strong*—one such loss; *Average*—2 such losses; *Weak*—3 such losses; *Failure*—4 or more such losses.

3. In assigning a rating on the other headings, it is best to select some "flesh-and-blood" teachers as representatives of each of the three steps on the scale, and use them as standards of comparison.

4. On a second or later rating, changes from the first rating should be indicated by marking a cross (x) in red for the first rating.

5. To find the total score, take the sum of the number of crosses under *Strong,* and twice the number under *Excellent.* Subtract from this total the number of crosses under *Weak,* and twice the number under *Failure.* The remainder is the score.

6. The 5-10% scoring highest will be the *Excellent* teachers, the 20-25% scoring next highest will be the *Strong* teachers, the 5-10% scoring lowest will be the *Failures,* the 20-25% scoring next lowest will be the *Weak* teachers, and the remainder will be *Average.* It is understood that sometimes a cross showing inferiority on but a single point might mean *Failure.* The scorer will please so state, if such is the case.

It is recognized that another major heading, *Classroom Results,* should be appended to Cards B and C, as soon as norms of progress are established. Subdivisions of this heading should appear for each subject in which progress of the class is measured. More than 25% above normal would indicate *Strong,* more than 20%

below normal would indicate *Weak,* other results would indicate *Average.*

It is recommended that

(1) All teachers be given copies of the rating card at the beginning of the year.

(2) They be asked to rate themselves.

(3) They be acquainted with the rating given them.

(4) Conference be held between the supervising officer and the teacher, in order that each may get the viewpoint of the other.

(5) Ratings be made not less than twice nor more than three times per year.

(6) A rating board of two teachers be appointed in each system by the teachers themselves, the ratings of which board, made confidentially, shall be studied in relation to those of the supervising officers.

(7) Retention and promotion be affected as follows:
  (a) No salary increase for *Failures,* and retention of such for only one year without some improvement in rating.
  (b) A grant of the annual increment in salary to *Weak* teachers for one year.
  (c) A grant of the annual increment of salary to *Average* teachers for three years.
  (d) A grant of the annual increment of salary to *Strong* teachers for five years.
  (e) A grant of the annual increment of salary to *Excellent* teachers as long as funds will permit.

Health Education in the Junior High School

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A few years ago, when the junior-high-school movement was first gathering momentum, numerous definitions were formulated for this new unit of the school system. Although nearly all these definitions possessed value, none was sufficiently inclusive to be generally adopted. More recently definition has given way to standardization[1], and nearly all the earlier definitions find a place among the standards of accomplishment tentatively set up for the junior high school. It is intended that these standards shall include the principles of education suited to boys and girls approximately 12 to 15 or 16 years of age, and for these principles we look to psychology, hygiene, sociology, and kindred sciences. It may, therefore, be confidently asserted that the ideal junior high school will make provision for any and all of these principles that have been sufficiently established as necessary for the education of boys and girls during early adolescence. Conversely, any junior high school which fails to make provision for one or more of these established principles fails to approach the ideal, and any educational theory which leaves them out of account is incomplete.

Health education is a well established principle. It is not unreasonable to expect that the curriculum of the junior high school should include, at least in theory, a comprehensive program of health. We may note, in this connection, that the Committee on the Reorganization of Secondary Education recommends that two 90-minute periods per week be considered a minimum for physical education, and further states that "these exercise periods of 90 minutes twice per week should be supplemented by play periods after school of at least one hour, and, of course, by the regular recess periods and setting-up exercises between class periods."[2]

In contrast to this, Table I shows the offerings in "Hygiene" in a number of schools which have organized on a junior-high-school basis. The results are disappointing.

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[1] See especially Briggs, T. H.: What Is a Junior High School? *Ed. Admin. and Super.*, 1919. Vol. 5, p. 283-301.

[2] Bureau of Education Bulletin, 1917, No. 50, p. 15.

TABLE I[3]

Showing by Percentages the Offerings of Hygiene Courses in Representative Junior High Schools

	SEVENTH GRADE			EIGHTH GRADE			NINTH GRADE		
	Required	Elective	Not Offered	Required	Elective	Not Offered	Required	Elective	Not Offered
A	31	..	69	55	22	23	13	13	74
B	56	8	36	56	5	39	23	35	42

Table II shows the specific offerings included by Douglass under this caption.

TABLE II

Showing by Percentages the Specific Offerings of Physical Education in Representative Junior High Schools

	SEVENTH GRADE			EIGHTH G			NINTH GRADE		
	Required	Elective	Not Offered	Required	Elective	Not Offered	Required	Elective	Not Offered
Physiology ...	17	1	82	17	4	79	6	10	84
Hygiene	17	4	79	15	3	82	3	3	84
Physical Training ...	35	8	57	35	5	60	32	10	58

It will thus be seen that health education is not receiving the emphasis that is its due in junior high schools. Moreover, suggestive curricula outlined by professors of education and others often contain only two or three periods per week to be devoted to health activities. It is not always apparent whether they deem this amount sufficient or whether they are of the opinion that a more extensive program would not be accepted by junior-high-school administrative officers. Thus, not only from the standpoint of practice, but also theory, the majority of junior high schools are failing to make adequate provision for a primary educational principle. If this were a principle that had emerged somewhat late on the educational horizon, or if there were insufficient experience to justify a comprehensive program of physical education, such a failure would be more easily explained. It behooves those interested in junior-high-school administration to see to it that health education receives the recognition it merits while the standards of this division of the school system are yet in the formative stage.

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[3] A: data from Briggs, T. H.: The Junior High School. Boston, 1920, p. 185. B: data from Douglass, A. A.: The Junior High School, Fifteenth Yearbook of the National Society for the Study of Education, Part 3, 1917, p. 80. Briggs does not state the school subjects and school activities which he included under the heading, "Hygiene."

[4] The disparity in the "Not Offered" columns is accounted for by the fact that some schools offer more than one of the subjects listed under the general heading "Hygiene."

Numerous statistics are at hand showing the state of health of school children and the common physical defects, as well as the kind and amount of food needed and the necessary hours of sleep. Such statistics alone furnish ample evidence that a comprehensive program of health edcuation is needed in the public schools, but they may be supplemented by figures showing the status of health of the adult population. It has been estimated that 42 per cent. of the number of deaths that occur in the United States each year are caused by reasonably preventable diseases, and that approximately three million persons are constantly seriously ill, also largely of preventable diseases. In addition, a very large number of persons suffer from minor ailments that lower their efficiency or cause at least temporary absence from work. The combined loss to society each year through preventable illness and preventable or postponable death has been estimated to be over one hundred dollars for each family.[5]

The need for health education was forcibly brought to attention by the number of men who were found physically unfit for military service in the late war. In 12 states 20 to 30 per cent. of the draft registrants were rejected; in 13 states, 31 to 35 per cent.; in 10 states, 36 to 40 per cent.; in 13 states, 41 to 50 per cent.[6] These figures become more significant when it is remembered that the majority of the applicants were from 21 to 31 years of age,—the age when if ever they should withstand a physical examination. Moreover, it has been estimated that 60 per cent. of the rejections were for physical ailments which could have been overcome or prevented had the individual known and practised a few of the commoner laws of hygiene. The public school has been slow in living up to its responsibility of inaugurating a program of health education.

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[5] Rapeer, L. W.: School Health Administration. 1913, Chapter 1. Estimates were made before the recent advance in the cost of living.

[6] Ayres, L. P.: The War With Germany. Washington, Government Printing Office, 1919, p. 20.

The primary value of such a program is the establishment of permanent habits of healthful activity, both physical and mental. Of necessity, it carries with it a plan for eradication and prevention of those defects and diseases which may be eradicated or prevented. But almost every one admits that there are other values which accrue from health education, especially when we take into account its various phases. Writers on moral education and writers on physical education alike point to physical education and especially to games and athletics as an important means of training in morals and will. If citizenship, as well as morality, is intelligent choice by the individual of habits of action for the good of the group, and if such intelligent choice is best brought about through group participation, we will also admit with various writers that physical education, games and athletics possess almost unlimited possibilities for training in citizenship. Indeed, it is doubtful whether any other phase of school life offers as many possibilities of making the individual socially efficient.

Modern psychology teaches that the muscles are the organs of expression for the mental processes, and gives the older pedagogical principle exemplified by laboratory work a newer significance. According to this principle, the demands of health education would best be met in a school where the mental is not set over against the physical, but where habits of healthful activity are inculcated through the different school activities. As schools are now organized, such a program is almost if not entirely unattainable. While it is true that modern educational theory recommends the introduction of more of the activities of the laboratory, shop, kitchen, school garden, and a more active participation in community affairs, by far the largest per cent. of the total time spent in the average school is in pursuit of subjects organized in such a way that the minimum of physical activity is demanded. Even the industrial arts, which so often mean one or two periods per week of manual training or home economics, make their greatest demands upon the finer muscular co-ordinations and can hardly be called activities through which desirable physical training is gained.[7] Thus the school is looked upon by many as a "highly artificial institution, largely ignoring physical needs and probably contributing rather to ill health and physical deterioration than to vital efficiency."[8] Moreover, the occupations which will later engage many junior-high-school boys and girls are sedentary in nature, so that it is the duty of the school to develop interest in physical activities, games, etc., in the hope that such interests may be permanent and later be an antidote for a sedentary life as well as a profitable means of spending leisure time.

One of the first considerations in health teaching is personal hygiene; another is community hygiene. The aim governing instruction and training in the junior high school should be the formation of habits and ideals necessary for personal and community health. In many elementary schools this program will have been inaugurated and carried forward considerable distance, but it will hardly have been completed. Therefore, in the junior high school training in habits of cleanliness, correct breathing posture, use of the eyes, of individual drinking cups, etc., should be continued to the end that a full set of right habits of living may be acquired. Pupils should be taught such facts of physiology, anatomy, biology, and other sciences as will help them to understand the principles of personal and social hygiene.

Social hygiene requires knowledge of the prevention or limitation of disease, and participation, so far as conditions will permit, in regulating conditions that are conducive to health, and in stamping out epidemics. Pupils should know something about the war that has been waged in this and other countries upon tuberculosis, smallpox, typhoid fever, etc., and the success attendant upon these campaigns. Among others, they should know the story of Gorgas and his work in Cuba and Siberia; they should know the part sanitation played in the construction of the Panama Canal. They should understand that cancer, Bright's disease, heart disease, pneumonia, and other maladies are becoming more and more threatening; they should understand the nature of the attack now being made in this direction. It goes without saying that in case of an epidemic of measles, whooping-cough, or influenza, pupils should be taught the nature of the disease, its effect, methods of transmission and means of eradication. Such a program would in itself bring the school into contact with local health authorities and in many instances would at least present an opportunity for a certain amount of field work in which health problems could be studied. Such a program would involve historical and descriptive reading, and as interests are awakened it would be possible to present the more technical matters.

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[7] For an analysis of the muscular demands made by manual training, see Douglass, A. A., and Dealey, W. L.: Micromotion Studies Applied to Education. *Ped. Sem.*, 1916. Vol. 23, p. 241-261.

[8] Rapeer, L. W.: Sixteenth Yearbook of the National Society for the Study of Education, Part 1, p. 176.

The nature of physical education is of course determined by the nature of those who receive the training. Young people from 12 to 15 or 16 years of age develop peculiar characteristics which must be taken into account in any comprehensive scheme of physical education. The familiar curves of growth show during these years a great increase in height and a rapid increment in weight due in large measure to the growth of the large muscles. There are changes in the circulatory system and increased blood pressure, as well as greater lung capacity. The vital index, or ratio of lung capacity to weight, is one of the best criteria of health and vigor, and it is noteworthy that, in the opinion of many, it could be increased at this time, especially in the case of girls, by proper exercise. Individual differences are a characteristic of all measurements. It is impossible to enumerate here even the more important phases of growth during this period.[9] Suffice it to say that students in this field agree in stressing the importance of abundant physical exercises in the open air involving the use of the muscles of the legs, back, shoulders, and especially those controlling the chest, heart and lungs. They are in essential agreement, also, that girls should receive especial care and attention, and that they should be relieved as far as possible of nervous strain and excitement during the time when they are entering the adolescent stage. A scrutiny of physical education programs now in operation in junior high schools shows that administrative officers take little account of the factors of growth during early adolescence in planning their program.

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[9] Hall, G. Stanley: Adolescence. New York, 1904. 2 vols.

During the Cleveland survey it was estimated that 45 per cent. more pubescent and adolescent boys were found in the grades than in the high schools. Similar estimates have been made in connection with other school systems. From this it was asserted that to confine adolescent games to the high school was an inconsistency in the administration of educational opportunities, and that practice in hardy games ought to be before the age when most pupils enter high school.[10]

Many descriptive lists of games are available, but selections should be especially adapted to the problem at hand. In general, we need games involving a certain amount of competition but not requiring much room and equipment, and games that all can play. It is at least extremely doubtful whether the inter-scholastic games of the high schools, to such a large extent a penetration of collegiate athletics, should percolate into the junior high school as they are now doing in so many places. The games themselves are for the most part not suitable for children of junior-high-school age, making as they do great demands upon endurance, especially of the heart, to say nothing of the small percentage of students they engage and of the win-at-any-cost idea of sportsmanship that is altogether too widespread. It mad be that some inter-school competition is desirable, for every director of play and athletics knows that certain advantages accrue from inter-school competition that are hard to attain through other agencies. Junior-high-school administrative officers need especially to grasp the problem of the right kind of games and plays for boys and girls of the early adolescent stage.

The rise of the gang spirit, with an increased desire for adventure, is one of the important characteristics of the pubescent age. It has been shown that most boys belong at some time to a gang, and that the years 10 to 17, particularly 11, 12, and 13, are those in which membership is commonest. The motivating interest in spontaneously organized gangs is in the majority of cases physical activity. At this time interest in imitative and make-believe games and in games of chase declines, and interest in games of rivalry, team-work, and athletics of all sorts increases. The Boy Scout organization makes use of these characteristics by admitting to membership at the age of 12 (junior scouts at 9) and by providing opportunity for group organization and participation in games, hikes, camping-out, and a host of other activities. More could be done than is at present attempted by junior-high-school principals in adapting physical activities to these characteristics of early adolescence. In some places Scout organizations for both boys and girls are found in connection with junior high schools, the scoutmaster being a regular member of the teaching force. If the fundamental purposes of the Scout organization are kept in mind, there is every reason why this movement should spread.

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[10] Johnson, G. E.: Education through Recreation. Cleveland Survey Foundation, 1916. P. 34-35.

Until comparatively recently, mental hygiene has received less attention than other aspects of health and as a result it is probably less understood by those who are engaged in school administration. It means essentially a normal functioning of the mental life, freedom from repression and morbid introspection, normal emotional life, a disposition to face the real things in life rather than to resort to indecision and day-dreaming, and in general a unification of the personality. The number of neurotic persons depends upon the standard set up for normality, but it has been estimated that "at least 5 per cent of our school children are neurotics in the sense that they are more than ordinarily predisposed to the development of mental complexes unfavorable to the healthy and co-ordinated functioning of intellect, emotions, and will."[11] Investigators are more and more in agreement that early childhood is the important period of predisposition and that it is therefore the period when preventive measures should be applied. During adolescense, however, certain of these tendencies come to light as definite neuroses. For instance, chorea, which is associated with overwork, shock, etc., seldom appears before 8 and not often later than 14; hysteria, which is essentially an enfeeblement of the synthesizing, organizing and directive powers, often develops at from 15 to 18 years of age; dementia præcox, shown in lack of interest, day-dreaming, and a severance of emotional from other forms of activity, is usually regarded as a typical adolescent disorder. As Slaughter says: "Adolescence, with its abundance of new and strong emotions not yet supplied with regular channels of discharge, with its receptivity and corresponding sensitiveness to suggestion, with mental materials weakly organized and therefore liable to dissociation, supplies a prolific soil for the growth of subconscious systems whose future exercise may be useful or harmful."[12]

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[11] Terman, L. M.: Hygiene of the School Child. Boston, 1914. Ch. 16.

Many of these neuroses are functional in character, and may be cured through the right kind of environment. Obviously, preventive measures are to be preferred, but in any case for a large number of students the junior-high-school period will offer the last opportunity for the detection and cure through environmental means of certain nervous disorders. We need in the junior high school a means of discovering those children who are of neurotic predisposition. School work itself should give more opportunity for concrete application, and less opportunity for dreaming, for the controlling principle in preventive and curative measures is that health and growth are paramount over all other considerations. An abundance of varied but wholesome food, plenty of fresh air, the proper amount of sleep, and above all a healthy day's work, are the chief elements in this environment.

Mental hygiene is concerned not only with children of neurotic tendencies, but with healthful and efficient mental work on the part of all. Hygiene demands that instruction be fitted to the child's degree of mental ability, to his stage of development, and to the condition of his health. It demands that he be given optimum conditions in which to work as regards heating, lighting, ventilation, and that care be taken to develop proper habits of attention, association of ideas, and emotional response. Some of the features of junior-high-school organization that need scientific instead of empirical determination are the length of the school day, of class periods, of time between periods, whether setting-up exercises or some other form of physical activity should then be given, distribution in the schedule of such studies as the industrial arts, home economics, and physical training periods. Moreover, there are contributions of considerable importance upon the hygiene of each of the several subjects[13] and instruction would doubtless be radically modified were these principles applied. In general, the organization of the junior high school is determined by the convenience and exigencies of administration, not by the principles of hygiene.

Summary: It may be confidently asserted that a philosophy of the junior high school which does not make provision for an adequate program of health education is incomplete, omitting as it does one of the well-established principles of the education of young people from 12 to 15 or 16 years of age. Yet examination of school activities in existing junior high schools shows that physiology, hygiene, physical exercise and games receive scant attention; further, an examination of the literature on the junior high school shows that many, perhaps the majority, of educational writers do not give health education its proper place. It is difficult to understand this attitude, for statistics upon the physical defects and the physical condition of school children and adults show in the most convincing manner the need for health education.

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[12] Slaughter, J. W.: The Adolescent. London, 1911, p. 66.

[13] For summaries and brief bibliographies, see the Cyclopedia of Education, edited by Paul Monroe. New York, 1911. 5 vols.

A comprehensive program of health should include training in personal hygiene and in community hygiene. Physical education, in order to be most effective, must be so arranged that it takes into account the physical characteristics of boys and girls entering the adolescent stage. Advantage should be taken of the opportunity to select games and plays especially suited to the stage of mental development peculiar to this age. Mental hygiene, while seemingly less understood than other aspects of health education, is no less insistent that mental life be protected through a healthful environment. The administration of the program of studies needs to be revised along the lines suggested by mental hygiene, including the hygiene of each of the several subjects.

The Evening School in Trade or Industrial Subjects Which May be Established Under the Smith-Hughes Act

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THE term "Evening" is really a misnomer in its application to the type school under consideration. Better titles might be *"Spare Time"* or *"Off Time"* classes, for that is essentially what *evening* classes happen to be. *"Evening"* as used in the Federal Vocational Act means *extra*-work instruction and can be given at any time in the day for night workers. For day employes also the term is scarcely applicable for although many,—in fact most, of our present classes of this type come in the evening, there is no reason why early morning, noon-hour or *post*-work late afternoon organizations should not be attempted. In fact, I am very much of the opinion that the latter type,—the late afternoon *post*-work organization, is far superior to any other so-called evening class, when the instruction centers in a single plant or about a group of centrally located ones having the same working hours and from which the class personnel is drawn exclusively. The advantages are *obvious,*—but I shall detail them later. To summarize, therefore, evening classes are classes held at *any time other than* the actual working time of the student.

The term "school" too, is doubtless just as carelessly used. Ordinarily a *school* is assumed to be an aggregation of *classes.* I am certain this is *not* the meaning to be attached to the term *"Evening School"* as herein employed. I have found the same ambiguity in the use of the term "school" in other Smith-Hughes discussions, and recall particularly an extensive correspondence respecting All Day Unit-Trade schools in which one of the parties had in mind a *single* unit trade class,—the other a *group* of unit-trade classes. Naturally there was a diversity of opinion, which was not coordinated until it was explained that the term *school* was meant as synonymous with *class.*

By *"Evening School"* therefore I understand that the *"Out of Working Hours Class"* is meant. If this is *not* the meaning intended, I, at least, would have it be so, for I have no more respect, generally speaking, for the principle of combining numerous evening classes into one central institution than I have ordinarily for the unit-trade school in which a large number of unit-trade courses are offered. There is room in vocational education for both the evening *school* and the unit trade *school,*—but in the southern states, I am certain, there is far greater need for the evening *class* and the unit-trade *class.*

My *basic* principle, therefore, is that for the southern states, at least, evening organization must be of the *isolated* rather than the *multiple* class type.

Evening classes face the same *general limiting conditions* that are applied to the other types of Smith-Hughes Vocational work. In other words every evening organization must be tested respecting the following requirements,—first,— is the class under *public* supervision and control? secondly,—is the instruction of less than college grade? thirdly,—is the controlling purpose of the class to fit for useful employment? *General* requirements respecting federal subsidy are first,—is the federal money used *strictly* for the part-payment of teacher's salaries? and secondly,—is every dollar of federal money at least matched by a dollar of state or local money, or both?

There are but two *specific limiting conditions* for evening classes. Both conditions apply to the question of class *personnel.* Evening class pupils must be at least sixteen years of age and no worker is to be permitted to enroll for evening instruction unless the type instruction given directly supplements his daily employment. In other words all evening instruction is of the *trade extension* variety. This is a very important and wise provision. It insures trade union cooperation, and usually guarantees the prerequisites of the students enrolled. It is, however, a principle sometimes poorly applied in large city evening schools. Every evening class should be carefully checked respecting the *trade extension* clause.

The only other important *specific limiting condition* respecting evening classes is that in reference to the teacher employed. State codes usually require that evening class teachers have *adequate* trade contact. It is my personal opinion that only experts in the practice of a specific trade should ever be employed to teach that trade. The educational prerequisites set for the teacher should, to my mind, be very low or admit of very *broad* interpretation. Some of the best evening class instruction I have ever seen has been practical instruction in short units by men who could not *officially* certify themselves to have completed the third grade in common school.

This question of the evening class teacher is of *prime* importance. School executives only too frequently use evening vocational classes as a means for augmenting the salaries of teachers in the regular day schools. I have seen City Superintendents who have never served a day in a textile mill impose on the time, patience and cupidity of textile employes in what was ostensibly an attempt to teach practical textiles, but was, in reality, an attempt to secure a fancy per hour rate for collateral teaching activity.

It is of value to note the important points concerning which the Federal Vocational Act makes little or no official limitations respecting the conduct of evening classes. An evening class can operate (a) *any* number of hours, (b) *any* time of day, (c) *any* place, (d) with *any* age pupil (maximum), (e) *any* number of pupils, (f) for *any* trade or (g) *any* unit of a trade,—be it practical or theoretical. It is well to discuss each point separately, and detail the advantages thereby accruing.

(a) *Any number of hours.* The unit-trade class must operate through a nine month period and the part-time class through 144 hours in order to guarantee subsidy. Such conditions make the school superintendent and manufacturer exceedingly "canny" at times, about attempting an organization of the types mentioned. There are *no time limitations* respecting evening classes. Evening classes, therefore, are easy for the State Supervisor or City Director to *sell.*

(b) *Any time of day.* Night workers may be grouped for instruction at any hour of the day—and day workers can be cared for on an evening, *pre*-work, *post*-work, noon-time or recess basis. The evening class is sufficiently flexible to meet any type situation. Our vocational organizers and administrators, however, have *not* properly made use of this flexibility. They have organized evening classes without number requiring that workers sacrifice an entire evening and subjecting them to a change of clothes, etc., when noon or *post* work (immediately after closing hours) would have functioned far more advantageously. I look for a real development in the *post*-work evening class organization.

(c) *Any place.* Another opportunity neglected,—another error in organization. We insist on a School Building, a Y. M. C. A., etc., etc., when the logical place is usually the mill, shop or factory. We must save our prospective students, who have already worked a full-day, the time of travel to and fro. They must *feel at home.* They must not be too strongly saturated with the old time formal *school idea.* The seminar group, just *after* work, in working togs, right at the shop, will mean much toward the establishment of successful evening classes. There is this *caution* to be observed whenever location is at the workshop or factory, to wit,—the man must not feel that his employer is "putting something over on him." Workmen are very prone to misinterpret any altruistic action of their employers. The words *federal* government, *state* authorities, *city* schools, should be used freely in references to shop-located evening classes.

(d) *Any age.* There is of course the 16 year minimum but there is no maximum age for evening students. *Trade extension* means, however, an older type student. The all-day unit trade class is necessarily a school boy proposition,—part-time general continuation classes usually make the same appeal,—the part-time trade class caters to the younger worker ordinarily,—but evening classes should and must be made to attract *adults.* I have found it expedient at times to limit certain evening classes to men thirty years of age and over, because of the sensitiveness of some of the older men who should be reached. The plan has worked admirably.

(e) *Any number of pupils.* A half dozen is not *too few.* I have found it the part of wisdom to be more concerned about an *upper,* than a lower limit, since the type teacher I like to employ has, in nine cases out of ten, never faced a class before. The real *aim* should not be aggregate number enrolled, but should be maximum *per cent of attendance.* To my mind a successful evening class should show at least eighty-five per cent attendance.

(f) *Any trade.* Even if a trade has little instructional content, it will usually furnish material for one or two short units of instruction. The evening class can accordingly reach practically *any* trade.

(g) *Any part of a trade.* We school folks have "gone to seed" on short-units of a mathematical nature. We must give more short units *of practical* instruction. The shop should be used as a laboratory. Tool sharpening, thread cutting on the lathe, milling machine indexing, for machine shop classes, and cotton grading, drawing-frame construction, etc., for textile classes, must supplant some of our mathematics and drawing for machinist, and our textile mathematics for textile classes.

I have a philosophy of evening class organization, the steps in the deveolpment of which are,—

1. It is the *class* rather than the aggregation of classes.
2. The teacher must be a tradesman in nine cases out of ten.
3. It is a *cold weather* organization.
4. It is a *short term* organization.
5. It must meet the worker three-quarters way, that is there must be little or no *inconvenience* to the worker.
6. It must be organized on a *Short-Unit basis.*

As usual the most important feature is last. To my mind, the Short Unit Course has been the real solution to a bad situation,—psychologically and pedagogically. Admittedly the *evening* is a *poor* time and the *tired* man, a *poor* person, to teach,—but the short unit organization minimizes the disadvantages named. Short-units have best been advertised in my evening classes by having announcements at the drinking fountains in the shop. Short Unit announcements must always be *brief,* and they must always specify the *exact* number of lessons to be given. A short unit should be re-blocked if it promises in excess of twenty lessons. Incidentally, a worker should rarely be expected to attend evening classes in excess of four hours per week.

The Federal Board for Vocational Education cannot go too far in its analysis of occupations and pamphlet publication of its findings in such form that units can be selected by lay teachers of evening classes. A guide is all that most of these teachers need in order to become really efficient instructors.

A few points respecting the establishment of evening classes. *Ideally,* the federal government, state government, local school district, and manufacturer should all contribute toward the cost of instruction. Usually this is not a hard ideal to strive for. Occasionally the students, too, should be assessed,—but only on condition that original assessment is returned if a satisfactory percentage of attendance is maintained. *Occasionally,* prospective students lack satisfactory prerequisites for evening theoretical instruction. In such cases I have freqently prevailed on school boards to establish *"feeder"* classes at their own expense, so that elementary subject limitations might deprive no worker of opportunities for extension study. In some cases I have succeeded in making the establishment of an evening vocational class contingent on the establishment of a non-subsidized "feeder" organization.

There is one use of the evening class which has been of real utility to me. Details respecting this scheme of evening organization can be obtained by consulting the Vocational Summary, Vol. 2, No. 6, page 109. Article is headed "A Part-time Agreement." Briefly the plan is as follows,—Frequently in prospective part-time trades organization there is reason to doubt the sincerity of some of the workers enrolled. The plan is to give the part-time instruction, for let us say, the closing hour of the working day, and then supplement same with an additional half hour of evening instruction. Almost any employee will avail himself of the opportunity to be released from work *with pay* for a period of part-time instruction. If, however, the *additional* requirement that he contribute a half hour of his own time (classified as evening instruction) is made,—only sincere workers will be recruited. This dual organization has worked excellently in practice.

Finally, any part of the federal money allotted to any state for trades and industrial class organization can be expended in evening class organization to the extent of two-thirds of the entire fund. Normally, however, evening classes correctly established require very little outlay of federal funds and a state can usually maintain an extensive evening class organization with an investment in same of not more than twenty per cent of its trades and industrial fund.

An Evening Course for the Training of Trade Teachers

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A. PRELIMINARY CONSIDERATION

The systematic training of trade teachers, previous to the enactment o fthe National Vocational Educaion Law of 1917, was attempted in this country in only a few isolated places. Since that time practically every state in the Union has established a more or less effective system. Most of these systems are based on the theory that it is better to take persons of promise who are well skilled in their trade and give them training in the principles, methods, and practice of teaching, than to proceed the other way around.

Such is the theory upon which the accompanying course is founded. To the minds of most persons interested in training for teachers, a teacher's course is pictured as one which is carried on during the day. In order, however, to get skilled trade-workers in sufficient numbers to take a teacher training course, it is necessary to offer the training in the evening. Men and women with good paying positions in the trades are loath to give up their wage-earning in order to grind through the work of studying for a school position. To their way of thinking, the latter rarely pays as much as the former, an dthe better social standing which attaches to a teacher's position is not of sufficient importance to warrant them in discontinuing their wage-earning for the purpose of chancing an uncertainty. Certainly the opportunity for performing service of immeasurable value does not carry enough weight with trade and industrial workers to prove an effective argument in an attempt to get them to undertake day training.

Giving the course in the evening has another advantage. Frequently good trade-workers who, when first approached, do not care at all to consider a regular teaching position, may be led to take the course in order to qualify perhaps for evening school work. Or they may be influenced to take the training for the purpose of better preparing themselves for foremanship; which it is pointed out involves, to a large extent, teaching. Once in the course, most of those who are thus induced to enter almost invariable stay and eventually decide to accept a regular trade teacher position.

LENGTH OF THE COURSE

The course is designed to cover two hundred eighty-eight hours. Attempts have been made, elsewhere, to give courses requiring less time. But few such courses seem to have succeeded in both developing *ability to teach* and also establishing at the same time, *the point of view and attitude of mind* which are deemed essential for trade and industrial teachers if the best results are to be obtained. In a course much shorter than the one here outlined practically little time can be devoted to the latter aspect of a teacher's full training. And if the course is very much shorter, teaching ability, if developed at all, becomes largely a matter of rule-of-thumb.

Because of the many current interests which make a demand upon the time of the trade-workers of the age accepted for training, and also because of well established pedagogic reasons, students who are admitted to the course without condition are required to report for instruction but two evenings a week. On the basis of a school year of thirty-six weeks, this plan carries the work over a period of two years. That gives the trade-worker time to break into the new mental attitude which now calls for abstract consideration of his trade, where before he thought of it perhaps only in terms of material production.

CONDITIONS OF ADMISSION

To be eligible for admission to the teacher training classes, an applicant must be able to comply with the following requirements:

1. He (or she) must be at least 24 years of age.
2. He must be able to show no less than 3 years of journeyman experience or its equivalent by the time the course is completed.
3. He must be in good health and without physical defects which would impair fitness for the teaching service.
4. He must be possessed of suitable moral character.
5. He must be able to speak and write English satisfactorily.
6. He must possess an acceptable minimum fund of civic and general information.

TRADE TECHNICAL REQUIREMENTS

In addition to meeting the qualifications just noted, the applicant must submit to a test in such related subjects as have a bearing on his trade. For men applicants these subjects comprise, mainly;

drawing, mathematic, and science as they bear specifically upon each applicant's trade. For women applicants the suubjects are such as mathematics, textiles, and designs as these apply to women's trades. The list of related subjects is limited only by the nature of the trades which are represented in the teacher training classes.

Applicants who fail to meet the minimum standards in these subjects, and those who do not care to try to qualify in them without taking further training, are assigned to a "Prerequisite Subjects Class." There the students are given the instruction necessary to bring them up to the minimum requirements. Thus conditioned students are required to be in attendance an extra evening; or, at least, they must do some special work which will enable them by examination to remove their conditions.

General Nature of the Course

The course of training is divided into two major groups. For purposes of distinction one of these groups is called *practical work;* and the other, *class work.* The practical work embraces assigned observation and supervised teaching; while the class work is devoted to discussions on the practice, theory, history, and administration of trade and industrial education.

The observation of trade teachers in action and of trade classes at work is given a special place in the course. Experience has shown that carefully planned and systematically conducted observation is of great importance to a trade-worker who with a relatively limited experience as a school pupil, and after a lapse of many years since leaving school, is preparing to re-enter school now as a teacher. Experience has made it evident also that the observation work must be done at the very beginning of the course so that, in his class work, the student may have a fresh knowledge of school atmosphere and a clear picture of school-shop conditions. Without these sources of understanding and interpretation the average trade-worker flounders around for an unnecessarily long period, and sometimes he becomes so discouraged by his lack of grasp that he drops the course.

The class work is conducted with the aid of lesson pamphlets. These pamphlets are designed to cover the various primary topics presented in the course. The lessons are passed out from time to time as they are needed. They are *loaned* to the students for a limited time, usually a week, not *given* to them. The object of this scheme is to establish a reason why the student must read the lesson during the period it is in his hand. This reason is openly told to the students and is fully explained. A busy trade-worker with many interests to absorb his evenings, seems to need some such special incentive to make him do his lesson the week it is assigned.

The first half of the course is known as the junior year work and the latter half as the senior year work. These names are used, rather than "first year work" and "second year work," primarily because "first" and "second" seem colorless and do not appear to have the same attraction for practical minded trade-workers as do "junior" and "senior." The latter terms apparently impress them more with that sense of school atmosphere which, by way of contrast with their customary experience, it is so desirable to emphasize at the earliest moment.

THE OBJECT OF THE COURSE

The object of the teacher training course concretely stated, may be given as follows:

1. To assist the student in analyzing his trade for constituent elements and supplemental content.
2. To get him to know how the learning process takes place; that is, how skill is developed, knowledge is acquired, and ideals are established.
3. To develop in him the ability to apply the principles of learning to the teaching of a trade.
4. To assist him in organizing the subject matter of his trade into a justifiable teaching sequence.
5. To make him acquainted with the best practices in school-shop management; namely, in matters of discipline, of equipment, of supplies, etc.
6. To furnish him occasions for the cultivation of verbal methods of instruction, and to give opportunity for exercising these methods.
7. To provide him with opportunities for putting his knowledge of teaching methods and school-shop management into practice, and thus give him experience.
8. To establish in him a point of view derived from a knowledge of the social and economic foundations for the vocational education movement.

DIAGRAMATIC OUTLINE OF THE COURSE

The following diagram gives the major groupings and the main sub-divisions of the course. It also shows the amount of time devoted to each of the divisions. In addition, the diagram indicates graphically the manner in which the practical work and class work are carried along throughout the entire course:

	Practical Work.	hrs.	Class Work.	hrs.
Junior Year	Assigned Observation. Reports on Observations. Discussions on Reports.	36	Trade Study and Analysis	16
			Methods of Teaching	10
			Lesson Planning	6
			Presentation Demonstration	10
			Organization of Teaching Material	6
			Instructional Management	12
			Determining Teacher's Achievements	6
			Teachers' Responsibilities	4
	Supervised Teaching. Student assigned as assistant teacher. Reports on work. Discussions on experience.	36	Total ... 72	
Senior Year	Independent Teaching. Provision made for each student to conduct own class. Student submits plans to supervisor. Supervisor attends presentation of lesson. Teachers' meeting held by supervisor.	72	The Meaning, Aim and Value of Trade and Industrial Education	4
			History of Trade and Industrial Education	8
			Status of Trade and Industrial Education	12
			The National Vocational Education Act	4
			The Vocational Laws of the State	4
			The State Plan for Vocational Education	4
			Content of the Related Subjects	
			Methods of Teaching the Related Subjects	4
			Allotment of Time for Various Items in the Course	4
			Correlation of Shop and Supplemental Subjects	2
			Course of Study	14
			Total ... 72	
	Sum Total	144	Sum total	144

Grand total, 288 hours.

9. To give him a background which should lead to an understanding of the true aim of trade education, and make known the place trade instruction properly holds in a complete educational scheme.
10. To acquaint him with the national program for vocational education and the state plan for carrying out this program, as well as with other related phases of the state's educational scheme.

B. DETAILS OF THE COURSE

I.—JUNIOR YEAR

1. CLASS WORK.

a. Trade Study and Analysis, 16 hours: This is an introductory step intended to force the student to visualize his trade in some of its outstanding details. It is designed to aid him in analyzing his trade into its constituent elements; to assist him in listing all type tasks prominent in his trade; to get him to give specifications for each of these tasks; and to help him record the ability and knowledge necessary for successfully performing each.

There is no endeavor at this time, to get the student to organize the tasks into a sequential order based upon learning difficulties. That is left for a later date.

Each task is listed on a separate card and the associated data is recorded thereon.

b. *Methods of Teaching,* 10 hours: The aim here is to instruct the student in the best way of presenting new facts to be learned, to advise him as to ways of getting pupils to make the application of the new facts; to show him how skill becomes fixed, knowledge is acquired, and ideals are established; to inform him of the teacher's duty during the application period.

Here, the different types of teaching are discussed, and the value and application of each to trade instruction is presented.

c. *Lesson Planning,* 6 hours: The purpose of this division is to explain the importance of a well-planned lesson; to give instruction concerning the constituent elements of a lesson, and the place and purpose of each; to illustrate several forms of plans that may be used; to advise as to the extent to which a plan may be followed; and to recommend the amount of detail that may be desired in the lesson plan.

Lessons are submitted by the student for constructive criticism, and the best ones are read to the class for comment.

d. *Presenation Demonstration,* 10 hours: The object of this part of the course is to force the student to apply in one or more concrete instances, the principles discussed under the two previous topics. Five minute practice talks are prepared and delivered before the students of the class who discuss each talk with reference to its content, organization and delivery. Presentation parts of lessons are then prepared for known teaching situations and delivered under actual school-shop conditions. Student reports are made on these presentations with reference to the means employed for establishing interest, the methods used in presenting the new information, the way employed to make sure the pupils clearly understood, and the spirit of the learners during the presentation period.

e. *Organization of Teaching Material,* 8 hours: Here, a comparison is made of an instructional as opposed to a productional order of having pupils do a given piece of work. Ways of determining learning difficulties are explained; methods of establishing a difficulty scale are proposed; and the student is required to apply the appropriate scale to his trade.

This is the place in the course where the student attempts to organize his type tasks into an effective instructional order.

f. *Instructional Management,* 12 hours: Under this subhead, are taken up such matters as :the individual versus the class method of instruction; the problem of discipline; the fundamental phases of shop routine; school bookkeeping; the ordering of equipment and supplies; the care of equipment, of supplies, and of both unfinished and finished work; ways and means of providing appropriate work for individual pupils; and plans for the keeping of records of pupils' accomplishments and progress.

g. *Determining Teachers' Achievement,* 6 hours: Here is discussed: The appropriate basis for measuring the attainments of skill and knowledge; how the various stages in a pupil's progress are to be checked up; the question of quality and quantity of accomplishment; and the basis for the advancement of pupils from one part of a course to the next.

h. *Teacher's Responsibility,* 4 hours: Under this head, are taken up such matters as: the responsbility of the teacher to the school, to the State, and to the country; the responsibility of the teacher to his pupils; and, also, the teacher's responsibility to himself as a member of a profession.

Loyalty, ethical and moral standards are discussed. The meaning of professional conduct is explained. And the need for constant study and professional improvement is emphasized.

This is the place to stress the ideals that should guide a teacher in his leadership and stewardship of youths.

2. PRACTICAL WORK.

a. *Assigned Observation,* 36 hours: The object here is to revive in the pupil's mind a picture of school, and especially a knowledge of school-shop conditions. The pupil is not left to observe what he pleases; he is assigned a definite phase of a trade-teacher's work upon which, for the time, he is to concentrate his attention.

The observation assignments pertain to such matters as: The nature and kind of routine features; the need for disciplinary measures, and special means of carrying them out; the type and quantity of shop equipment, and ways of keeping it in repair; the methods of providing materials and methods of preventing waste; the things which pupils make, and the purpose and amount of time assigned to each; the teacher's method of marking pupils as to quality and quantity of accomplishment and as to degree of accuracy; the dangers entailed in school-shop work, ways of preventing accident, and regulations concerning the use of machinery.

Reports on each observation are made to the supervisor in advance of the scheduled discussion of that assignment.

Discussions are based on the observations and also on the reports. Observation visits are made one week, reports are submitted soon after, and the class discussion takes place the following week.

b. *Assistant Teaching,* 36 hours: As a means of introducing the students by an easy stage to the actual work of teaching, each of them, upon completing the required observation, is assigned to the work of assisting some teacher in his field. The best available teachers giving instruction in the evening are selected for this purpose. They are compensated for their aid by the relief which the assistant can give in dealing with the details of the work and in assisting individual students, as well as by occasional group instruction.

II.—SENIOR YEAR

1. CLASS WORK.

a. *The Meaning, Aim and Value of Trade and Industrial Education,* 4 hours: This subhead is devoted to a study of the meaning of such terms as vocational education, trade education, industrial education, and the like; to a consideration of the economic and social needs for vocational education; to a study of the relationship which should exist between general education and vocational training; to a discussion of what trade education and what industrial education each should comprehend; to a consideration of the value of part-time education; prevocational; education and the like.

b. *History of Trade and Industrial Education,* 8 hours: Here is discussed the growth of trade and industrial education; the decline of apprenticeship; the influence of the industrial revolution upon economic activities; the consequent need for vocational education; the forms of hand work which preceded true trade education; early attempts to establish vocational education in this country; the modern movement; the attitude of trade unions and employers' organizations toward trade education; and the several national vocational acts leading up to, but not including, except for a brief descripton, the National Vocational Education Act.

c. *Status of Trade and Industrial Education,* 12 hours: The purpose here is to discuss with necessary fullness, the prevailing aims of trade and industrial education; the different types of schools and courses which in one way or another may be considered industrial in character; the comparative purposes of each of the schools; the persons for whom each type of school has been created; the character of the course of study in each type of school; the length of time, the kind of teachers, and the methods of teaching peculiar to each of the type schools.

d. *The National Vocational Education Act,* 4 hours: At this point, an intensive study is made of those features of the Smith-Hughes Act which trade and industrial teachers, giving instruction under the provisions of the act, should know and understand. Such topics are discussed as the primary aim of the act, the kind of schools and the kinds of subjects which may be reimbursed, the type of work recommended for different schools, and the various policies relating to Smith-Hughes work which the Federal Board for Vocational Education has established.

e. *The Vocational Laws of the State,* 4 hours: Under this topic, all state legislation bearing upon the trade and industrial aspects of vocational education are considered in detail.

In California for example, the California Compulsory Part-time Education Act is considered. Special stress is laid upon such features of the act as:—the specified length of course; the subjects which may be taught and those which must be taught; the subjects a given pupil may elect; how each part-time pupil's course is determined; the amount of time which should be given to each subject; and what is included under each subject of instruction.

f. *The State Plan for Vocational Education,* 4 hours: In this division, the entire State plan for vocational education is discussed. Special stress, and by far the greatest amount of time, is devoted to the trade and industrial program. Such topics are discussed as: —the policy of the State Board regarding courses eligible for reimbursement; the amount of Federal and State aid available; what is recognized by the State as worthy of reimbursement; how courses may become eligible to reimbursement; what an application to establish a course must include; and the like.

g. *Content of Related Subjects,* 12 hours: Here, the attempt is made to get the pupils to record against the type tasks which they previously listed, the mathematics, drawing, science, etc., which is necessary for a mastery of the trade. The work is introduced by a brief study of the nature and scope of the various related subjects. The object of this study is to make the students fully aware of the recognized subdivisions of these subjects in order that, as shop teachers, they may the better be able to help co-ordinate the related work with the shop work.

h. *Methods of Teaching Related Subjects,* 4 hours: The object in this division of the course is primarily to advise the student as to the best ways and means of giving instruction in the related subjects in so far as they for man internal part of a shop teacher's work. It is at this point that the prospective shop teacher is informed as to the methods of teaching followed by the best regular teachers of related subjects. The shop teacher's methods of giving related-subject instruction and the related-subject teacher's methods, are compared and evaluated; and the function of each type of teacher with reference to the related subjects, is discussed and defined.

i. *Allotment of Time for the Various Items in the Course,* 4 hours: This subhead is intended to cover a study of the relative time value of the various subdivisions of a trade course. It is intended to aid the student in estimating the proportion of time, in any given length of course, which may be most appropriately alloted to each division of his trade. The relative amount of time that should be provided for related subjects as compared to the amount of time which is needed for shop work, is discussed and established.

j. *Correlation of Shop and Related Work,* 2 hours: Here, the perplexing problem of correlating the shop work and the related work comes up for consideration. Methods of correlation are presented; and the functions of both the shop teacher and the related subject teacher, with reference to bringing about the proper correlation, are given due attention.

k. *Course of Study,* 14 hours: As a culminating piece of work, the student is required to construct a complete course of study by organizing his type tasks into a justifiable teaching sequence, and allotment to each, as well as he can, the related subject material together with the necessary auxiliary information which should accompany each task in the proposed course.

It is not assumed that this work will result in a perfect finished product. The work aims merely to force the student to attempt the making of a complete course; and thus provides for the formulation of a plan which should prove a good starting point for a course of instruction that will be continually modified to suit changing demands, and will be ever improving as increased knowledge and accumulated experience may dictate.

2. PRACTICAL WORK.

a. In order to give teaching experience which will fully function later on in his teaching career, each student is, as far as possible, given independent responsibility for a class in his trade. His work is under the personal observation of a visiting supervisor. The supervisor receives lesson plans from the student teachers, submits constructive criticism on the plans, and as time permits visits the students when they are to present a new subject or begin a new phase of work. Following each visit, the students confer with the supervisor to receive suggestions and discuss their progress. Monthly meetings of these teaching students are held for the exchange of experiences and the discussion of common problems.

Observation and Student-Teaching in Summer Sessions

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In those normal schools and teachers' colleges where summer sessions are maintained one of the problems which is most insistent, and which in few schools has met with a satisfactory solution, is that of the work of the training department during the summer. As practice teaching and observation are required of all students who are candidates for diplomas, and as many teachers in service must be trained during their summer vacations, the question of whether or not practice teaching shall be offered during the summer session comes to be one of prime importance. If it should be offered, adequate facilities must be provided for doing work of as high standard and under as typical schoolroom conditions as the practice teaching of the regular year. If it should not be offered, then some means must be found whereby other courses can be substituted, or other ways of satisfying the diploma requirements should be offered.

I. CONDITIONS UNDER WHICH SUMMER WORK IS DONE

If conditions in normal schools were more nearly ideal; if practice teaching were more nearly standardized, particularly in the summer sessions; if there were an adequate training-school staff; if there were a sufficient supply of pupils;—in short, if both the normal school and the training school were organized on a forty-eight weeks' basis, the problem would be practically solved. As it is we have summer sessions of from six to twelve weeks with demonstration or practice schools in session from two to twelve weeks. And at present, the work rather than approaching the ideal, is unorganized, unstandardized, and far from typical of actual school room conditions.

One of the first problems is to secure an adequate number of representative pupils for the demonstration or practice schools. Very few schools give credit to children for summer work. The training school is likely to enroll chiefly children who have failed to make their grades or who wish to "skip" grades. The following extract from a letter from one of the supervisors of the training school at Kalamazoo, Michigan, illustrates the problem:

> "This year we are putting on a distinct campaign for children of our own Training School to return. Heretofore we have not done so and as a result we have had odds and ends from public and parochial schools the majority of whom needed coaching. This is a poor situation for Summer Session teachers to observe."

This practice has led ofttimes to dissatisfaction and complaint when these same children have failed to be promoted or to "skip" a grade on the basis of a summer's work in the training school. Central State Normal School at Edmond, Oklahoma, has had this problem to meet as have the normal schools of Texas.

While classes for backward and retarded children as well as opportunity classes for gifted children should be provided, they should not be provided as a substitute for, or an equivalent of, typical groups under typical conditions.

Most training schools and their courses of study are not organized on a forty-eight weeks' basis. If they were they would be out of close articulation with the majority of the public schools of their various states for whose work the normal schools are training teachers. So it would seem to be a difficult task at best to give full credit to Training School children for summer work. Many parents feel that it is too trying for children to go to school in the summer. These conditions have resulted in very inadequate enrollments in the training schools;—at one normal school, for example, there were only sixty children enrolled for fifty student-teachers.

Springfield, Missouri, has evolved the plan of giving vacations at various times during the school year and requiring all children in the training school to attend the first five weeks of summer school before certificates of promotion are granted.

The normal school at Macomb, Illinois, conducts only a six weeks' summer session and makes it a definite part of the year's work. The children enrolled in the training school during the regular year are required to attend in the summer.

We have referred to the fact that the majority of schools conduct either half-day or shortened daily sessions. This is due in part to extreme warm weather as in the southern schools; in part to the necessity of using the training school building for normal school classes because the normal school plant is taxed to capacity to care for the increased enrollment of the summer school; and to the fact that the training teachers often teach normal school classes in the afternoons. This last condition may be a good thing from a financial standpoint for both the teacher and the normal school, but from the standpoint of training-school efficiency it is a pernicious practice. It is a heavy strain on the training teachers to supervise practice teachers or to teach demonstration lessons in the morning; they certainly cannot give the best teaching to normal-school students after so much effort has been expended in the earlier part of the day. The Summer Session students should have the very best teaching that the school can afford.

While many normal schools do twelve weeks' work in the summer, some of them crowd it into ten or eleven weeks by having the classes recite an extra hour each week. Terre Haute, Indiana, has an eleven weeks' session of five days for six weeks and six days for five weeks. Ypsilanti, Michigan, has a six weeks' session with classes which recite twice daily. No credit is given to student-teachers enrolled in the observation and practice courses, but a certificate of attendance is given those who have been regular in attendance upon the work.

The practice and demonstration schools cannot follow this practice, for all of their work comes every day during the regular term; only by conducting a much longer daily session would they be able to do twelve weeks' work in ten or eleven weeks. Instead of this the majority of them conduct half-day sessions or shortened sessions.

In normal schools in which the summer sessions are of six weeks or less in duration it would be manifestly impossible under existing circumstances to do more work than is done during six weeks of the regular year. In fact, at present, actually less work is done.

In the majority of normal schools from which we have received reports and whose catalogues have been studied, only the kindergarten and elementary divisions are conducted during the summer session. This is doubtless attributable to the fact that many of the older pupils work or help about the home. If they give up their work voluntarily to attend the summer school they must receive some amount of credit to offset this monetary consideration. The younger pupils have no particular responsibility in the work of the home and their earning capacity is relatively small. As they like to be with the other children of their own age, it is comparatively easy to get them to come to summer school. As the summer session is not regarded as a part of the school year, however, this attendance is often sadly depleted by the middle of the term.

One of the few normal schools that report no difficulty in securing pupils for its summer demonstration or practice school has 220 pupils enrolled in the kindergarten and elementary division, and 100 in the secondary division. Another school which reports no difficulty has only sixty pupils enrolled, and these are in the elementary grades.

In nearly all of these normal schools, extra-curricular activities, courses in industrial arts, and, as one school puts its, "manual training and various kinds of special work not as a rule offered in town schools," are provided as inducements to get pupils to remain for summer work. Other inducements are: pageants, festivals, gymnasium and playground work, drawing, domestic science and art

As the summer sessions of the normal schools present the only opportunity which many teachers in service can grasp for availing themselves of further professional training, it is to be expected that the enrollment during this session would be greater than that of any quarter or semester of the regular year. This is certainly true of all of the normal schools of Texas, Oklahoma, Tennessee, of most of the normal schools of Missouri, of the Iowa State Teachers College, and of Teachers College of Columbia University. It is clear, then, that classes of observers and student teachers are larger during this session than during the regular year. Many of the normal schools report comparatively few student-teachers enrolled for the summer work but this would seem to be due largely to the fact that summer practice teaching is not encouraged by these schools except in special cases, and even then there are many restrictions placed upon eligibility for such courses. The following quotations will illustrate the above points.

"Several modifications of the plan for the regular year are made during the Summer Session. No normal school students except those who teach in the senior training high school, should enroll for more than two hours' credit in practice teaching during the Summer Session. Two hours' credit in practice teaching requires five hours per week in teaching and participation and one hour per week for regular conferences with supervisors. The practice teaching as well as the conferences require considerable outside preparation."—(State Normal School, Emporia, Kansas).

"Classes of children from the primary and grammar grades will be in charge of expert critic teachers. These teachers will give model lessons. Opportunity will be given for a limited number of students to do regular practice teaching."—(State Normal School, Whitewater, Wisconsin).

"The Practice School will be open during the summer term. Advanced students will be permitted to take practice teaching and others may observe work in this admirable school."—(T. L. Cook, President, State Normal School Spearfish, South Dakota).

The State Teachers' College at Greeley, Colorado, conducts a complete elementary training and demonstration school, including the kindergarten. Opportunity for practice teaching is limited to those who graduate at the end of the summer session.

The State Normal School at Warrensburg, Missouri, provides practice teaching for those only who are in the graduating class. "The smaller attendance of children makes it necessary."

The State Normal School at Albion, Idaho, provides full practice teaching facilities and gives full credit for summer practice work.

Out of thirty-six normal schools reporting, twenty-two state that they deliberately discourage students from doing practice work in the summer. Eight state that they do not. Five conduct no training school during their summer session. One conducts no summer school. The tendency is obvious.

The tendency to discourage practice teaching in the summer session is due, then, almost entirely, to lack of adequate facilities for taking care of students. In an Oklahoma normal school there were, during one summer session, approximately two hundred practice teachers enrolled with fewer than one hundred pupils in the training school, only four training teachers, and one director. This meant that the work given could not be much more that a series of demonstration lessons taught sometimes by a member of the group of student-teachers, more frequently by the training teacher. Yet credit was given for practice teaching. This was manifestly a farce. The course should have been called observation and allowed as a substitute for practice teaching under the crowded conditions.

It may be clearly seen that the conditions existing in summer sessions of the observation and practice departments of state normal schools are extremely unsatisfactry from the following causes:

1. Depleted enrollment of practice schools means few pupils to each teacher.
2. Classes offered for slow and bright pupils are not typical.
3. Half-day sessions of the practice school do not permit all subjects to be taught.
4. Shortened terms of from six to twelve weeks do not approximate conditions of the average school.
5. Not all grades are represented.
6. Classes of student-teachers and observers are over-crowded.
7. Present facilities are inadequate to accommodate eligible practice teachers who apply.

II. TYPES OF STUDENTS WHO ATTEND SUMMER SCHOOLS

In most of the normal schools and teachers' colleges the enrollment during the summer session is greater than that of any quarter or semester of the regular year. This is due to the fact that the enrollment is largely made up of teachers in service who cannot afford to give up fairly lucrative positions to undertake professional training. Consequently they must get their training during their vacations. The Milwaukee State Normal School states definitely in the following quotation that its summer session is organized for these teachers.

> "The summer terms of the normal schools reach their highest usefulness when they are organized for the benefit and convenience of teachers who have already entered upon work, and who being engaged in teaching during the remainder of the year, find a part of their summer vacation their only convenient time for continuing their studies, or for taking up new lines of work in which they are interested, or for fitting themselves for promotion to more desirable and profitable positions.—The Summer Term of the Milwaukee State Normal School, while other students will be welcomed and cared for as in the past, will hereafter be arranged and conducted with the thought of these mature people, already entered upon the work of taching, first in mind."

These experienced teachers come to the normal schools with actual problems encountered in the field. They bring their own motivated projects with them and it is here that the largest opportunity of the normal school lies. When they go back in the fall they are the ones who profit most by the summer work and who most successfully put into execution the new ideas of education. The problems of these mature students and their needs are widely different from those of typical normal-school seniors who are enrolled in regular sessions. Should they then be required to meet the same requirements in practice-teaching that the other class of students must meet? It would seem not. Opinion is, however, rather equally divided on this point. Of thirty-five normal schools reporting, thirteen believe that experienced teachers should be allowed to substitute other courses; thirteen believe they should not; seven do not say; and two are in doubt.

Another type of student who comes to the summer school is the supervisor or administrator,—primary and elementary supervisors, supervisors of drawing and music, rural-schol principals, small-town principals and superintendents, and county superintendents. If these people are to be reached by the normal schools, they must be offered courses which directly fit their needs. Otherwise the normal schools fail in one of their surest means of establishing a contact with the public-school systems through loyal, sympathetic, like-minded students and alumni who are in the business of directing the educational policies and procedures in their communities. To put these students through the regular mill of practice teaching which raw recruits are required to go through is uneconomical and unprofessional. Furthermore it drives them to other institutions where they may undertake professional work without the regular practice teaching. How much wiser it would be to have these students undertake some really constructive problems or experiments in education and with the help of the normal schools work them out in their own communities, in this way satisfying the practice-teaching requirements. These problems and experiments not only would benefit the individual himself; they would be in some cases, a distinct contribution to educational practice and theory. The State Teachers' College at Springfield, Missouri, allows teachers in service to substitute for summer practice teaching practical work in the field, under the supervision of the college staff.

A third type of student who comes to the summer school is the teacher of limited experience and qualifications. For him the work of practice teaching need not be considered as he is not eligible to do such teaching until he has attained senior rank. The work in observation is of great importance here, and demonstration lessons taught by expert teachers under typical schoolroom conditions, should form a large part of his training in this session.

Still another type of student to be considered is the rural teacher. This teacher presents a different problem, one which has not been successfully worked out during the regular year and still less in the summer term. Most of our rural teachers in Texas are not even normal-school seniors and therefore are not entitled to take practice teaching. Practically none of our graduates go into the rural schools and this is true to a large degree of Kansas, Missouri, Illinois, and other states. If these teachers are to be reached, a rural demonstration school should be conducted by every normal school which sends out rural teachers of less than senior standing. Many of the normal schools are doing this and are thus helping to raise standards for rural teachers. It is easier to get pupils for a rural demonstration school in summer than for a graded urban school. The younger boys and girls are needed less on the farms, and many rural schools run for two months in the summer and have two months' vacation at a busier season of the year. The rural students could observe and do their practice under actual, typical conditions for the work would be a regular part of the school year as far as the pupils are concerned.

The last type of summer school student to be considered is the regular student who lacks only a few hours' credit of graduation and must make it during the summer term in order to teach in the fall. He should not furnish a problem for practice teaching as his work should have been taken care of during the regular session. If, however, the training department is overtaxed to furnish practice facilities to all eligible students during the other quarters, there would seem to be no alternative but to provide practice teaching for him in the summer or to allow the substitution of some related course. As a general rule, however, all seniors should do their practice teaching during the regular school year.

III. RECOMMENDATIONS

In the light of the conditions under which observation and practice teaching are conducted during the summer sessions of the various normal schools and teachers' colleges, the following recommendations are made, first in regard to the enrollment of pupils in the training schools, and secondly in regard to the observation and practice work.

A. Pupils of the Training Department.

1. It is suggested that the problem of securing adequate enrollment for the grades of the training school for the summer session might well be met by furnishing transportation facilities to pupils from six-months or seven-months rural schools in the vicinity of the normal school. These pupils, by attending the summer session for ten or twelve weeks, would thus be enabled to do nine months' regular work and could be promoted on the same basis that children of the urban schools are promoted. This summer work could be arranged for with the county superintendents and the local school authorities and would be an integral part of the regular year's work of the rural schools.

2. The course of study of the regular normal-training school could be placed on a forty-eight weeks' basis instead of a thirty-six

weeks' basis. Promotions might then be made four times yearly or oftener if need arose. This solution is being recommended by some educators, but we are not as yet convinced that it is entirely practicable either to put children through school faster, or to widen the curricular activities and keep them in school longer. The most cogent reason to be urged against it is that the majority of the representative public schools have not accepted this organization, and the normal schools are laboratories for training teachers for the public schools.

3. Since it is an important function of education in a democracy to train leaders, it would seem only wise to provide opportunity classes for gifted children during the summer session. By this means those children in the upper quartile may be given a chance to advance as rapidly as their native capacities permit. The summer students, especially experienced teachers, and administrators, would become acquainted with one of the big problems with which modern education is becoming concerned in an ever-increasing measure.

Classes for the slower pupils who are behind their grades, but who can really do their work if given a longer time, should be provided and the summer session furnishes a good time for such work. The catalogue of the Colorado State Teachers' College says, "The course of study [for the summer session] confines itself to systematic reviews of fundamental subjects, special attention being given to individual instruction and supervised study."

Let it be understood here that neither the slower pupils nor the brighter ones should be regarded as furnishing typical school room conditions but the summer school furnishes an excellent opportunity to give these children the chance which they otherwise could not have.

4. It is recommended that training schools in which the summer session is six weeks or less in length, give vacations during the year as at Christmas, Easter, between semesters, etc., and make the summer session a part of the school year. The State Teachers' College at Springfield, Missouri, is following this plan successfully.

B. Observation and Practice Work.

1. Regular observation of typical classroom activities should be provided for the student teachers in the summer session. Experi-

enced teachers gain much from observing the work of skilled training teachers. If there are particular types of lessons or particular methods of presentation which they wish to observe, opportunity is easily provided to meet their needs. Provision should be made for discussion of the lessons with the training teacher who teaches them. An important part of this course should be the formulating and setting of standards for observation and criticism.

2. The majority of the students who are taking the observation and practice work during the summer session are teachers in service, many of them administrators. This type of teacher should be introduced to the modern tendencies in education. Therefore a part of his summer work should include educational experimentation with a discussion of its purposes and a study of several experimental schools. Another part of the course should be devoted to a study of recreational leadership together with the organization of the Boy and Girl Scout patrols. These should be illustrated by the observation of the training school groups engaged in these activities.

Other phases and tendencies of modern education which should at the present time be brought to the consideration of student teachers in this department are: supervised play activities, industrial arts and handwork courses, and the place of the project in education.

3. It is recommended that regular seniors who graduate in the summer, meet practice teaching requirements during the regular year in order to leave a free field for adapting the work of the training department to the type of teacher for which the summer school is largely planned. The majority of the normal schools investigated favor this plan.

4. Practice teachers of more than three years' experience should be allowed to substitute for summer practice teaching:—

(a) Actual teaching in their own schools during the regular year under normal-school supervision. The teacher who wishes to make such substitution pays the expenses of the normal-school supervisor for two or more visits although it is hoped that the State will eventually take care of this expense. Springfield, Missouri, follows this plan.

(b) Another plan for meeting the practice teaching requirements, and one which has found favor in some Normal Schools, is the teaching test. Many teachers whose schools are dismissed early in the spring come to the normal school about the last week in May or the first week in June and there conduct a series of lessons under the supervision of the director of training. If the teaching done in this series is of marked ability the students are excused from further practice teaching. Students may be assigned to do test teaching in the summer session. The State Normal School at Bowling Green, Kentucky, and the State Teachers' College at Springfield, Missouri, are using this plan.

(c) Supervisors and administrative officers of long experience would doubtless get more from other courses than from the usual practice teaching. Definite experiments could be organized and carried out in their own departments, schools, or system of schools and checked under the direction of the normal school.

It is suggested that many normal schools might profitably follow the plan employed by the Texas normal schools in having Saturday classes in the training school for neighboring teachers. If this day is reserved for them they could teach or work out an experiment in the regular training school with the training teacher.

(d) Other courses which have been suggested by directors of teacher training as substitutes for summer practice work for experienced teachers are: Classroom management; survey of the curriculum; elementary and secondary school standards; content of the curriculum; principles of supervision; training of teachers in service.

5. It is recommended that students of less than three years' experience take one term of practice teaching in the regular year and after this they may offer any of the above substitutes for summer practice work.

6. A special rural school should be conducted for the observation and practice work of the rural teachers especially for those who are below senior rank. The reasons for this suggestion have been mentioned above.

7. It is recommended that no six-weeks' or eight-weeks' summer school should offer practice teaching, as it is obviously impossible to evaluate credit for a few hours' teaching in half-day sessions where typical conditions do not exist. I quote from the catalogue of the Arkansas State Normal School:

*** * * "teachers who wish it will have ample opportunity to do observation or class work, as they be able, under competent direction. However, most of the class work will be done by the supervisors themselves, as experience has shown that this is best for a short term school."**

An observation school should be conducted during the summer session as a part of the year's work as explained above.

8. Normal schools which conduct ten-weeks' and twelve-weeks' summer sessions should offer practice teaching if conditions are typical, and facilities adequate, and if there are supervisors and critics enough to direct the work of the student teachers. If not, only observation work should be offered.

An attempt has been made in this paper to present a problem of normal-school administration about which little has been written. Normal-school presidents and directors of training have been most courteous in answering questionnaires and letters. They express themselves as being greatly interested in such an investigation and recognize its importance in their own schools.

The materials, concrete data, and other information were secured from correspondence with directors of teacher training; from normal-school bulletins and summer school catalogues; and from conferences with various training directors and normal-school teachers in attendance at Teachers' College, Columbia University. Among these, Mr. John E. Talbot has been of especial assistance as without his coöperation and help in sending out questionnaires much of the material in this paper could not have been secured.

Educational Administration and Supervision
Including Teacher Training

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The Intermediate Program of Studies*

THE intermediate school movement has now progressed far enough to have laid a foundation for itself in a type of organization and a philosophy, and upon these the structure of the curriculum and courses of study must be erected. Having segregated our seventh, eighth and ninth grades, built buildings to house them, provided them with a type of organization and control which we claim better fits the adolescent, we still have the problem of what we should teach, how much of any one thing we should teach, and when and how we should teach it; with the problem of the program of studies, curricula and courses of study. This is a vital problem and it must be admitted that we are only in the beginning of the solution. One indication that it is being attacked is the large number of textbooks that are appearing for intermediate schools, many of them written entirely new for this type of organization, others adaptations of books that have been found more than ordinarily successful under the eight-four system.

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*Detroit Educational Bulletin.

Altogether the formulation of the curricula and courses of study for this new type of school presents the most difficult and yet the most important and fascinating problem in connection with the intermediate school. With the new emphasis which the school is being forced to place upon the socializing, unifying, integrating process, due to our heterogeneous population, and to the loosening of the ties and restrictions which the family, the neighborhood, and other more or less informal agencies once placed upon the individual, it seems that the core of our new curriculum should be the social sciences, and we should organize courses in history, civics, economics and sociology, simple in character, and well within the grasp of pupils of intermediate school age.

These naturally will not be the formal courses of the high school or early years of college but simple courses, stressing human relationship at school, home and community; psychologically rather than logically arranged, and as intimately connected, by such means as the project, with actual life outside of the school as can conveniently be brought about.

Not only should the social sciences as such be taught, but it seems necessary that the remaining subjects of this program of studies should be taught with the emphasis upon their socializing value. Thus, the science of the intermediate school will not be the science of tradition in which one special group of natural phenomena are segregated and studied in logical arrangement with one another, with no basic regard to their relation to everyday life in the home and community, but general science in which the eyes of the pupil will be opened to the existence of the great natural world around him, his place in it and his relationship to it. The teachers will not be teachers of physics, chemistry or biology but rather teachers of adolescent children.

Mathematics will probably not be taught as arithmetic, algebra, geometry and trigonometry, each in its separate logical compartment, but rather as a general mathematics, where the foregoing in such of their simple applications as are within the power of early adolescents to handle are given; of intrinsic value in themselves, and not as separately organized sciences, which, however much they may appeal to the mature student, are not suitable for intermediate pupils.

Following up the idea of socializing the curriculum will be enriched to provide more fully for leisure time activities. Thus literature, art, and music will be taught with the emphasis upon enjoyment. In literature, the attempt should be made to present material which can be enjoyed by boys and girls of twelve to fifteen; there should be much reading rather than much tedious analysis and technical study and the study of many of the classics should be deferred until a more mature experience and mentality can be brought to bear upon them. What is good literature for the adult may not necessarily be good literature for the thirteen-year old, and the main care here should be to present material of such an enjoyable character as to develop a love of reading rather than a distaste for it through dry, technical studies or enforced reading of material beyond the capacity of boys and girls in the early teens.

In harmony with socialization as the governing function of the intermediate school should be the health curriculum, not only the actual physical exercises and games, but also hygiene, physiology and sanitation to the end that citizens may be turned out into the world with strong bodies and with essential knowledge of how to keep them strong, both through personal community activities; and this curriculum should also contribute much to the worthy use of leisure.

The curricula and courses of study for vocational guidance and training are now being recognized as of importance second to none. The intermediate school must perform great socializing duty through these courses. Machinery is in existence and is being improved for giving the vocational training, and is being created to provide more fully for guidance both at school and after the pupil leaves school. It is for the few years that are immediately before us to determine the details and the content of these courses and many of their administrative features.

This is the problem which confronts the educational theorist, the textbook writer, the adminstrator and especially the progressive teacher. It seems reasonable to state that it presents at once one of the greatest educational duties and one of the greatest educational opportunities which will be offered to the present generation.

The Reorganization of Science in the Secondary Schools of Great Britain and America

I—SCIENCE IN THE SECONDARY SCHOOLS OF GREAT BRITAIN.

THOSE who desire to make science function in the education of pupils of high school age will find many valuable suggestions in two recent reports dealing with the reorganization of science in secondary schools.

The first report,[1] which was published more than two years ago but has received almost no attention in American journals, is entitled "Natural Science in Education," and is a report of the Committee on Natural Science in the Educational System of Great Britain. This committee was appointed by the Prime Minister in August, 1916, and issued its report in 1918. Sir J. J. Thomson, who is well known for his great discoveries in physics, as well as for his interest in public affairs, was chairman of the committee which was appointed to advise what measures are needed to promote the study of science with respect to the needs of a liberal education, to the advancement of pure science, and to the development of the trades, industries, and professions which depend upon applied science.

The final report is a volume consisting of 272 pages which represents the labor of many able men and women. The importance of this report has been appreciated by the United States Bureau of Education and almost the entire report[2] has been reprinted by the Government Printing Office.

We quote a few statements from the "Summary of Principal Conclusions" (Chapter VI, pages 237-8).

A—Science in the Secondary Schools.

"Steps should be taken to secure for all pupils in state-aided secondary schools a school life beginning not later than 12 and extending at least to 16.

"In all secondary schools for boys, the time given to science should be not less than 4 periods in the first year from 12 to 16, and not less than 6 periods in the three succeeding years.

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[1] Thomason, Sir J. J., and Committee, Natural Science in Education, His Majesty's Stationery Office, London. Price 1s, 6d.

[2] Natural Science Teaching in Great Britain, Bulletin 1919, No. 68. Government Printing Office, Washington, D. C. Price 15 cents.

"Increased attention should be given to the teaching of science in girls' schools.

"In girls' schools with a 24-hour school week not less than 3 hours per week should be devoted to science in the period 12-16."

A—Science Course, ages 12 to15.

"The science work for pupils under 16 should be planned as a self-contained course, and should include besides physics and chemistry, some study of plant and animal life.

"More attention should be directed to those aspects of the science which bear directly on the objects and experiences of every day life.

"There should be as close correlation as possible between the teaching of mathematics and science at all stages in school work."

C—Science Courses, ages 16 to 18.

"The amount of time devoted from 16 to 18 to the subject or subjects in which a pupil is specializing should be not less than one-half or more than two-thirds of the school week.

"Those specializing in science should continue some literary study, and those specializing in literary subject should give some time to science work of an appropriate kind.

"Pupils who do advanced work in science should be enabled to acquire a reading knowledge of French and German."

II—SCIENCE IN THE SECONDARY SCHOOLS OF AMRICA.

The second report[8] to which we wish to refer is a more recent publication entitled "Reorganization of Science in Secondary Schools." This bulletin is one of the reports issued by the Commission on the Reorganization of Secondary Education. This American report was prepared by a science committee of 47 members with Professor Otis W. Caldwell of Teachers' College, Columbia University, as Chairman. The work of this Committee has been in progress for seven years and now that the report has been approved by the Reviewing Committee of the Commission on the Reorganization of Secondary Education, the report is issued for public distribution.

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[8] Caldwell, Otis W., and Committee, Reorganization of Science in Secondary Schools, Bulletin 1920 No. 26. Government Printing Office, Washington, D. C. Price 10 cents.

A—Science as a Whole in Secondary Education.

The report states that there is great need for reorganization of the science courses of the secondary schools because of:

(1) The variation of purposes for which the sciences are taught.

(2) The increasing number of sciences offered.

(3) The development of intensive specialization within the sciences.

(4) The lack of sequence in the order of teaching the various sciences.

(5) The wide variation in content and method.

B—Contribution of Science in General Education.

The Committee suggests that science instruction should contribute to six chief objectives in general education as follows:

(1) *Health:* Topics dealing with health should be taught in the junior high school, and in at least the first and second years of the four year high school.

(2) *Worthy home membership:* The conveniences that make the modern home comfortable and attractive require science for their full appreciation and intelligent use.

(3) *Vocation:* Science should be so presented as to be of direct assistance in the wise selection of vocation.

(4) *Citizenship:* Students should acquire a more intelligent appreciation of the services rendered by the scientist and technologist.

(5) *Use of leisure time:* Science should be taught so as to suggest useful and pleasureable avocations.

(6) *Ethical character:* The science course should contribute to an adequat conception of truth and a working confidence in the laws of cause and effect.

C—Science Sequences Recommended.

(1) Junior-senior high school

Seventh year: General science, hygiene included, three periods per week.

Eighth year: General Science, hygiene included, three periods per week.

Note: In case general science is not carried through seventh and eighth grades it may be given five periods per week.

Ninth year: Biology, including hygiene. Courses may consist of general biology, botany, or zoology.

Tenth year, eleventh year, twelfth year: Elective courses as follows:

(a) Chemistry—General chemistry and special courses.
(b) Physics—General physics and special courses.
(c) General geography, or physiography.
(d) Advanced biological science.

(2) Large four year high school

First year: General science, including hygiene.

Second year: Biology, including hygiene courses, may consist of general biology, botany, or zoology.

Third year, fourth year: Elective courses as follows:

(a) Chemistry.
(b) Physics.
(c) General geography or physiography.
(d) Advanced biological sciences.

(3) Four year high school of medium size:

First year: General science.
Second year: Biology.
Third year: Chemistry.
Fourth year: Physics.

(4) Small high school:

First year: General Science.
Second year: Biology.
Third year, fourth year: Chemistry and physics. It is desirable to alternate the courses in chemistry and physics in alternative years.

D—The Principal Courses in Science.

Part II of the reports concerns the details of the principal courses in science, namely: general science, biology, chemistry, and physics. Several pages are devoted to each science in discussing the selection and organization of subject matter, methods of teaching, type topics, aims, excursions, etc.

E—The Science Teacher.

At the end of the report, there is a brief appendix dealing with the science teacher, his training, and professiona ldevelopment.

F—Defects in American Education and the Remedies for them.

In discussing the defects in American education[4], a well-known educator mentions:

(1) Bad diet.
(2) Infant mortality.
(3) Feeble efforts of state and nation in combating tuberculosis.
(4) Popular ignorance of venereal diseases.
(5) Lack of manual skill.
(6) Little training of the senses.
(7) No habitual accuracy of observation or statement.

Finally, for the first time in the history of high school science, we have two reports issued by independent committees of two great nations, in which practically the same science program is advocated for the secondary schools of the respective nations. If the suggestions of these committees could be put into intelligent operation at once, the defects mentioned above might be remedied in an effective manner in a reasonable length of time.

EARL R. GLENN.

Lincoln School of Teachers College.

A Second Book in Algebra. FLETCHER DURELL AND E. E. ARNOLD. 330 pages. New York: Charles E. Merrill Co.

The present volume contains a second course in algebra adapted to the latter part of the high school curriculum. The book is divided into two parts: Part One being meant for use in such classes as give only a half year to the second course in algebra, while the entire volume is to be used by classes giving the whole year to the second course. In half-year classes Part Two can be used as a reservoir of extra work for bright pupils.

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[4] Eliot, Charles W., Certain defects in American education and the remedies for them. Teachers Leaflet, No. 5, Bureau of Education, Washington, D. C.

Sociology and Modern Social Problems. CHARLES A. ELLWOOD. 416 pages. New York: American Book Company.

Prof. Ellwood's text on sociology, which originally appeared ten years ago, has been successfully used not only in college and high school classes in sociology, but as a reading circle book. In the revision two new chapters have been added. "The bearing of modern psychology upon social problems" and "Theoretical summary." While these may be omitted where the book is used with classes that are not able to follow them intelligently, they are designed to bring out more clearly the theoretical implications of the concrete problems studied.

Roosevelt's Writing. MAURICE GARLAND FULTON, Editor. 365 pages, frontispiece. New York: The MacMillan Co.

The editor has gathered from the writings of Theodore Roosevelt a collection of representative excerpts which will give the student a broad view of the style of expression and attitude toward life of this distinguished American.

ERNEST C. WITHAM. *School Reports of the Town of Southington, Conn., for the School Years 1917 and 1918.* Pp. 64 and 73.

The 1917 report has an interesting account of a study in English composition scored by the Hillegas Scale, while the 1918 report gives similar data for spelling (Ayres), arithmetic reasoning (Stone), vocabulary (Thorndike), and handwriting (Thorndike). The latter report also presents an interesting age-grade distribution of Southington pupils.

GEORG WOBBERMIN. *Christian Belief in God.* New Haven: Yale University Press, 1918. Pp. xix, 175. $1.25.

The sub-title of this book is "A German Criticism of German Materialistic Philosophy." The author is a professor in the University of Heidelberg. and here presents a careful analysis and an incisive criticism of that modernized form of German materialism and evolutionism of which such thinkers as Nietzsche and Haeckel are the well-known exponents.

NEWS NOTE

Dr. Leonard P. Ayres, a director of the Russel Sage Foundation, has been elected Vice President of the Cleveland Trust Company of Cleveland, Ohio, and will take up his new work at once. Since the establishment of the Russell Sage Foundation in 1907 Dr. Ayres has been the Director of its Department of Education, and also of its Department of Statistics. The work of the Foundation in these two fields has attracted wide attention. Dr. Ayres is the author of a number of books on educational, statistical, and scientific subjects. During the war he organized and directed simultaneously the statistical offices of the Council of National Defense, the War Industries Board, the Priorities Committee, and the Allied Purchasing Commission. He then entered the army and became its Chief Statistical Officer, and organized the Statistics Branch of the General Staff. He was commissioned as a Colonel, and established the statistical services at General Pershing's headquarters in France, as well as those of the Supply Service of the Expeditionary Force. After the armistice he was appointed Chief Statistical Officer of the American Commission to Negotiate Peace, and accompanied President Wilson on his mission to France. For these services he was awarded the Distinguished Service Medal. Dr. Ayres is a graduate of Boston University and took his postgraduate work at Columbia University. His educational writings deal largely with administrative and financial problems. Some years ago he made an analysis of large numbers of letters, newspapers, and other sorts of English composition, to identify the 1000 commonest words in English writing. The results of this research largely revolutionized the teaching of spelling in the public schools. In co-operation with his assoiciates in the Russell Sage Foundation Dr. Ayres has conducted a large number of surveys of city school systems. Among his recent publications, his comparative study of state school systems and his book entitled, "The War With Germany," have attracted wide attention. Dr. Ayres will take charge of the research and statistical work of the Cleveland Trust Company.

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EDUCATIONAL
ADMINISTRATION AND SUPERVISION
Including Teacher Training

SUBJECT MATTER COURSES IN MATHEMATICS FOR THE PROFESSIONAL PREPARATION OF JUNIOR HIGH-SCHOOL TEACHERS.

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I. INTRODUCTION

The problem to be considered is what mathematics should be included in the normal school course for the preparation of junior high school teachers of that subject. This problem has special significance both from the standpoint of the junior high school and of the normal school. The junior high school is the present storm center, the place of ferment, in our educational system. Created to effect a better articulation of the elementary and secondary school, and to remedy retardation and elimination, the junior high school has developed new possibilities in the treatment of the adolescent, for it first of all required a reorganization of the administration of the seventh and eighth grades, a sifting and an enriching of the subject matter, and after that, the establishing of a new teaching method built on the psychology of the adolescent.

The teachers of mathematics have responded to the demands put upon them. To be sure they appeared to resent the criticisms and suggestions of radical reformers, yet they have keen consciences, and they quietly set to work to carry out the suggestions offered. But the pressure came not alone from our educational reformers. England for some years has been influenced by the Perry movement, first broached by John Perry as far back as 1900, a movement for relating mathematics in the schools to its many applications in the physical and social environment, instead of keeping it merely a formal manipulation of meaningless symbols. This movement could not help but seep into the thought of our instructors on this side of the water. Besides this, the reports of the International Commission on the Teaching of Mathematics, submitted to the International Congress of Mathematicians in England in 1912, opened wide the eyes of our American educators to the inferiority of the mathematical instruction in our schools as compared with that of many foreign countries, notably France and Germany. So the National Committee on Mathematical Requirements has recently submitted a preliminary report of a program for the junior high-school period that makes a good step forward in carrying out the purposes on which this new middle school was conceived.

The problem of introducing such a program into the school is not so much one of determining the content of the course, as it is one of finding people to teach it. The teacher of the new mathematics must have a new vision, a new motive, a new view of the meaning of mathematics and the purpose of teaching it to boys and girls. Entirely new ground must be turned, for it requires a spirit unknown to most of those who have already grown up in our schools. The adult of today learned the fundamentals of arithmetic in the first six grades, wallowed around for two or three years in mensuration and obsolete applications of arithmetic to business, and perhaps dabbled a little with the beginnings of algebra. Then in high school he took algebra and plane geometry,—algebra taught by the treatise method, formal and narrow; and geometry the traditional demonstrative geometry. Perhaps this formal work was continued with solid geometry or trigonometry. Such is the school preparation of most of those who are now called upon to teach with the new spirit. The ground must be broken somewhere and most naturally in the training of teachers.

II. MATHEMATICS IN THE JUNIOR HIGH SCHOOL

What is the new mathematics that is to find its way into our schools? What is its new spirit, and what are its methods? "We must not forget that the junior high school is the trying-out school where young people are expected to find themselves. We must. then, be insistent upon exposing the student to as many subjects as possible without allowing him to become fickle, flabby, change able, and always seeking the easiest course."[1] We need such an "introduction to mathematics as will enable a decision to be reached as to whether or not the student is fitted to continue with profit his work in this important intellectual field"; we need "to open the door to mathematics, showing its general nature and its purpose, and present that preliminary and general view which it is the privilege of every student to have, and which it is the duty of every school to give at some time in the course."[2] The child as well as everyone else meets some quantitative or some spatial relation at every turn. Nature is bursting with mathematics to him who can read it, and one might say that the vast structure of our material civilization is reared on a foundation of mathematics. We daily meet situations involving mathematics in which we are handicapped unless we have the tools with which to handle them.

To be more specific, one finds concrete needs for arithmetic in the home, the store, the bank, on the farm, and in industry. At home there are the family and personal accounts, the family budget, the gas, water, and electric meters, the clock, and the time table. In the store there are change-making, bills, invoices, discounts, charge accounts. In the bank one meets problems of interest, usually compound. Then, there are the procedure and rules of savings banks, the postal savings bank, and the national bank with their deposit slips, checks, promissory notes, bank discount, and commercial paper. On the farm there are the accounts and records and problems of the dairy, the soil, crops, and roads. In industry one finds the pay-roll, and special problems that every industry encounters. By the end of the sixth grade a child should have acquired all the principles of arithmetic he will need in this work, which is suggested for the first half of the seventh grade, besides learning valuable facts and principles of every-day life. All this affords ample opportunity for drill on arithmetical processes. These items are merely suggestive, for one would not think of making precisely the same applications in a rural school as in an industrial town. The precise course will be determined in due degree by the nature of the community.

Then there are the facts of space that every one should know because they are met and used in daily experience. First there is the geometry of form which includes a knowledge of the various plane and solid figures, simple constructions and pattern-drawing, the principles of similarity and symmetry, with applications to drawing to scale and the use of the pantograph. Secondly, there is the geometry of size, including rules of length, area, and volume; estimation and measurement; ratio and proportion; and the metric system. Thirdly, there is the geometry of position, including the location of points, the determination of distances, the use of maps, and the principles of rotation. The locus problem thus presented becomes lucid and interesting to the child. Besides these three geometries there is the Pythagorean principle which has applications of importance. This work is planned for the second half of the seventh grade. Again these topics are suggestive only, the details of the course depending on the interest and breadth of experience of the teacher as well as on the opportunities for community application.

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[1] Bennett, *The Junior High School*, p. 80.
[2] Wentworth-Smith-Brown, *Junior High School Mathematics*, Bk. II, Preface, p. iv.

Today one is not fitted to cope with scientific problems unless one can read and interpret formulae and the graphs, and understand the meaning and manipulation of the negative number. These concepts, once scientific tools, have become established in the vernacular, and are met with in every-day experience. The formula is encountered in geometry, in industry, in business, and in the home. One should know how to evaluate, simplify, and transform a formula. This last process involves a knowledge of equation solving. One should know how to make and interpret graphs, both the columnar and circular pictograms; the frequency distribution; and the extended curve of the time series. Besides these graphs of material and social data, one should know how to graph a formula, as this procedure provides for a more extended knowledge of the relation expressed. The negative number is used to express debt, latitude and longitude, scores in games, temperature, direction, pressure, altitude, velocity, flow, and changes of various sorts; its meaning together with operations on it should be taught. Algebra in the traditional curriculum has been severely criticized, and has been hard pressed to justify itself; but now the burden of proof falls to the critics to show that the above outline is not justified in our present social economy. This algebra is suggested for the first half of the eighth grade.

The latter half of the eighth grade may be devoted to a more intensive study of the applications of arithmetic, either to correlate with other school subjects and their needs, or with the special problems and needs of the community. Trade, transportation, industry, building, banking, corporations, home life, farming, the community, the government, investments, and mensuration are all fields which lend material to be treated by arithmetic.

In the ninth school year the course in mathematics should bid for the further patronage of the pupil. This is one way of stating that a rich course in mathematics should be given to discover if the child can respond to the appeal of the beauties and logic of the subject. In the preceding years the topics were not thoroughly treated, the purpose being more to open the subject and present the facts and techniques that are most essential. But in the ninth school year the treatment should be more systematic and thorough. The basis in algebra should still be the formula and the graph, but with an emphasis on the representation and meaning of proportion and the functional relation. Geometry should show the nature of deductive proof. A clear definition of the purpose of the instruction in geometry should be held in mind, for Euclid is no longer the perfect and complete system once considered, and no attempt at completeness should be made in the geometry course. Rather a small portion of the subject should be selected with suitable known facts as axioms; the beauties of rigid demonstration should be clearly shown. Finally a brief introduction to numerical trigonometry should be made, defining the fundamental concepts, showing their use in the solution of right triangles, and teaching the use of tables.

Such, in brief, is the material proposed for the seventh, eighth, and ninth school years in American schools. Note that the number of mathematical principles introduced is very small. Algebra is not made a waste of meaningless manipulation, neither is geometry a sum of books and theorems. A purpose runs through all to discover and analyze the relations of quantity and space inherent in the natural and social environment, and to obtain a skill in the use of elementary tools for solving everyday quantitative and spatial problems. To prepare the teacher of mathematics in the junior high school is, not essentially to provide a mathematical foundation, but to give a broader insight into social needs of mathematics, a wider experience in discovering and appreciating quantitative relations in the environment, and above all the inculcating this new spirit of mathematics as a tool.

III. THE SITUATION IN THE NORMAL SCHOOLS REGARDING THE PREPARATION OF TEACHERS OF MATHEMATICS

It was said at the opening that this problem of preparing teachers in mathematics for the junior high school had significance from the standpoint of the normal school. The normal schools of the country are trying to rise to a better fulfilment of their task. Teacher-preparation is coming to be regarded as the work of a professional school, with aims and methods comparable to those of other professional schools. The preparation of teachers in the past has been altogether too haphazard and insufficient. Especially, the "academic," "professional," and "training" departments have not only done their work without correlation, but have even ignored and ridiculed the work and importance of each other. The academic department, which we are most concerned with, has only too often merely given instruction in the several branches, not realizing that in doing its part in the training of the teacher, it had the opportunity and the duty of linking with the facts and principles of the subject, the pedagogical methods of teaching.

In order to illustrate the present status of the mathematical preparation of teachers in normal schools, I have selected at random normal schools from various parts of the country, assuming that they are typical and representative of all. Below are the salient points of each school and the courses in mathematics they offer.

1. *State Normal and Training School, Farmington, Maine.*
    - Admission: graduation from an approved secondary school, or by examination.
    - Curriculum:
        - Two year general.
    - Mathematics offered:
        - Arithmetic (methods of teaching considered in a course under general heading "Methods").
    - Algebra.
    - Geometry.
2. *State Normal School, Geneseo, New York.*
    - Admission: high school graduation.
    - Curricula:
        - Two year general.
        - Special courses.
    - Mathematics offered:
        - Number.
        - Arithmetic.
        - Logic.

3. *Northern State Normal School, Marquette, Michigan.*

Admission: graduation from an approved high school, or by examination.

Curricula:

A 4 year course leading to degree.
General Life Certificate—two year course.
Superintendents', Principals', High School Teachers,' and College Students' course.
Graded School Certificate, one year and one summer.
Special courses.
Rural School Course, 12 years of schooling.

Mathematics offered:

1. Teachers' Arithmetic I (A study of the sources of material and methods of teaching Arithmetic for all elementary grades).
2. Teachers' Arithmetic II (Four weeks are devoted to the study of methods of teaching Arithmetic. Then eight weeks are spent in problem work in denominate numbers, percentage, and its applications, and mensuration, always with the professional point in view).
3. Secondary Mathematics. (A course in methods for those preparing to teach in high schools.)
4. Applied Mathematics (adapted to needs of those preparing to teach Manual Training).
5. College Algebra I.
6. College Algebra II.
7. Plane Trigonometry.

8, 9. Analytical Geometry.

10. Differential Calculus.
11. Integral Calculus.
12. Advanced Calculus.
13. Differential Equations.
14. Analytical Mechanics.
15. Theory of Equations.
16. History of Mathematics.
17. Elementary Astronomy.

The four year curriculum requires 6 courses out of a group composing biology, chemistry, geography, physics, astronomy, geology, and mathematics. Twenty-eight units are elective so that a student could graduate without any mathematics or with all the mathematics offered. The Superintendents', Principals', and College Students' course requires no mathematics, but has eleven elective courses. The two year general life certificate course is divided into three parts. Those preparing for the upper grades (7 and 8) are required to take Arithmetic II, and have 6 elective courses. There is in the school a mathematics club meeting every two weeks, indicating the strength of the department.

4. *Louisiana State Normal School, Natchitoches, La.*

Admission: completion of the second year of the high school, or eight Louisiana high school units, or its equivalent.

Curricula:

Ten term courses for primary and grammar grade teachers.
Special 10 term courses for home economics and rural education teachers.
Eleven term courses (History-Language and Science-Mathematics) for high school teachers.

Mathematics offered:

In the course for grammar grade teachers the following mathematics is offered:

Term 1. Plane geometry.
" 2. Plane geometry.
" 3. Solid geometry.
" 4. Arithmetic.
" 5. Algebra or arithmetic.

In the course for high school teachers the following mathematics is offered:

Term 1. Plane geometry.
" 2. Plane geometry.
" 3. Solid geometry.
" 4. Arithmetic.
" 5. College algebra and advanced arithmetic.
" 6. Trigonometry.
" 7. Analytical geometry.
" 8. Calculus.
" 9. Calculus.
" 10. History and teaching of mathematics.

5. *Fort Hays, Kansas, Normal School.*

Admission: eighth grade graduates may be admitted to the secondary school. High school graduates may be admitted to the Teachers College.

Curricula:

One-year state certificate, high school graduation and 6 college hours of education.

Three-year state certificate, 31 hours of work beyond completion of secondary work.

State life certificates, 62 hours of college work beyond secondary school.

B.S. degree, 124 hours of college work, including at least 30 hours of professional work.

Mathematics offered:

A. Arithmetic.
B. Business Arithmetic.
C. Algebra, through simple equations.
E. Algebra, through progressions.
D. Algebra, through radicals.
F. Geometry.
G. Geometry.
1. Geometry, Solid.
2. Algebra.
16. Higher Algebra.
3. Plane and Spherical Trigonometry.
15. Farm Surveying.
26. Surveying.
51. Pedagogy of Arithmetic.
52. Pedagogy of High School Mathematics.
53. Analytical Geometry.

6. *Oregon State Normal School, Monmouth, Oregon.*

Admission: high school graduation.

Curriculum:

Two year general.

Mathematics offered:

Arithmetic, fourth term of junior year.
Professional Arithmetic (Primary), Senior year.
Professional Arithmetic (Advanced), First term.

I add here the corresponding data from the tentative curricula prepared by the Carnegie Foundation for the Advancement of Teaching.

Admission: graduation from four-year high school curriculum.
Curricula:
  Several differentiated in respect to the larger divisions of the teaching service—especially intermediate-school or junior high school teaching (further differentiated as to subject-groups).
Mathematics offered:
  In the three-year curriculum for teachers of science and mathematics in departmentalized upper grades, intermediate schools, or junior high schools, the following mathematics is offered:
    First year:
      Second term, solid geometry.
      Third term, trigonometry.
    Second year:
      First term, trigonometry and college algebra.
      Second term, college algebra and analytical geometry.
      Third term, analytical geometry. Arithmetic (a systematic study of arithmetic with the emphasis on the topics of the seventh and eighth-grade programs).
    Third year:
      First term, the teaching of arithmetic (The problems of the teaching of arithmetic in the upper grades and lower high school classes, with special emphasis upon commercial and industrial applications, and methods of study and drill. Observation of class work).

One of the most important features of the short curricula planned by the Carnegie Foundation is that they shall be capable of extension to longer-term curricula. An example is given of how the general curriculum for teachers of the seventh and eighth grades could be extended two years to make a four year curriculum. In the general curriculum for seventh and eighth grade teachers the following mathematics is given:

First year:
  Third term, Arithmetic (a systematic course with the emphasis upon topics found in the seventh and eighth-grade programs).
Second year:
  First term, Teaching of arithmetic (The aims and values of arithmetic as taught in the seventh and eighth grades; specific methods of teaching different topics. Observation of class work should be a feature of the course).

Then it is expected that at least two years be spent in teaching service before entering upon the work here described.
Third year:
  Second term, solid geometry.
  Third term, trigonometry.
Fourth year:
  First term, trigonometry and college algebra.
  Second term, college algebra and analytical geometry.
  Third term, analytical geometry and an introduction to the calculus.

Of the actual normal schools mentioned, three do not begin to provide for the junior high school. Perhaps the need for preparing junior high-school teachers has not been felt in their districts. Two of them overshot the mark in the preparation suggested for high school teachers and undershot it for the elementary teacher. The peculiar problems and situations of the junior high school age have been ignored. One would judge from reading below the surface in the catalogues that what mathematics is offered is of a purely theoretical sort, taught with no purpose in view except to learn the mathematical principles and utterly unrelated to the work of training a teacher. One of the schools seems really to be fitting its course to the definite purpose of teacher training as the situation existed in that school and district.

The curricula as outlined by the Carnegie Foundation have the distinction of being thought out with a comprehension of the shortcomings of present practices, and with excellent criteria of standards that should govern the building of normal school curricula. And hence they rank as superior to any at present found in existing normal schools and may in many respects well be taken as models. But the writer wonders if in the making of the curricula for mathematics teachers the curriculum maker has not had a somewhat hazy conception of the social purpose of mathematics in the public schools and the professional use of the traditional higher mathematics in the preparation of the teacher of mathematics. We cannot, for instance, think how solid geometry can contribute more to a teacher's experience or efficiency for the teaching of intuitional geometry than has already been gained from plane geometry. And in the same way, college algebra seems to impart no special skill or knowledge essential to teaching the algebra that we have already outlined for the junior high school that elementary algebra does not give.

IV. A CONSTRUCTIVE PROGRAM IN MATHEMATICS FOR THE PROFESSIONAL TRAINING OF JUNIOR-HIGH SCHOOL TEACHERS

In building a constructive scheme for the courses of mathematics for the professional training of the junior-high school teacher, first must be decided the length of the course. For this there are several criteria.

One criterion is the present practice. Normal schools like Bridgewater, Salem and Fitchburg of Massachusetts, or Plymouth and

Keene of New Hampshire, that give definite preparation for junior-high school teachers make it a three-year course.

A second criterion is the judgment of those who are experts on the subject and have given time and thought to its consideration. The Carnegie Fundation lays down this fundamental thesis: "No curriculum should require less than two years of specific preparation, and every effort should be made so to enhance the sanctions and rewards accruing to efficient public-school service *upon every level* that three-year and four-year curricula will soon become the rule. Every two-year curriculum and three-year curriculum should be capable of extension to a four-year curriculum by the later addition of one or two years of advanced study in a specific field already covered by the shorter curriculum. The student should be encouraged to spend a certain period in actual service between the time of completing one of the shorter curricula and the time of entering upon the advanced work of the supplementary years. It is assumed, however, that the attendance of a student throughout each year will be continuous, and that the years of a given curriculum will, in general, be consecutive. Although a student who has completed one of the two-year or three-year curricula should be permitted to undertake the work of a four-year curriculum in a different field, he should be obliged, either in course or by examination, to account for all the newly required subjects that have not already been completed."

A third criterion is the course itself: let the ideal preparation of the junior-high school teacher itself determine the length of the course. The considerations given below indicate that the minimum should be three years, and of course a much more satisfactory and complete preparation could be accomplished in four years, in light of the present entrance requirements to the normal schools. It is not difficult to make the standard a three-year course, for the importance of the junior-high school is readily recognized, and the necessity of a more thorough preparation than that required by the lower elementary teacher is recognized by the layman, if not by the educator.

A second question to be decided is how far the curricula for the preparation of the junior-high school teacher can or should be differentiated. One of the fundamental advantages urged for the junior-high school movement is the affording of an opportunity for departmental instruction by specialists. The advocates of departmental instruction in the intermediate school have their opponents, but perhaps the consensus of present day opinion is in favor of it. However, the size of the average school is such that it is desirable for a teacher to be master of more than one subject. Mathematics and science are most closely allied, and it is suggested that the curriculum for the preparation of the mathematics teacher and the science teacher be identical. How early this differentiation into subject-matter specialists can be made is an open question. It has been suggested that this choice can be made at the end of the first semester of the first year. It is certain that in general it is not necessary to wait longer to determine the trend of the major interests.

A third question to be solved is the standard of admission to the normal school. The almost universal practice and the recommendations of committees and experts is that graduation from a four-year high school curriculum of accredited standard should be prerequisite for normal school admission to the regular course of study. From this we may assume that students entering the normal school have had one year of algebra and one year of plane geometry, as this is the minimum of current practice.

Our prospective junior-high school teacher of mathematics comes to us then with an equipment of traditional elementary school arithmetic and traditional high-school algebra and geometry. He is to be inspired with a new idea of mathematics, its relation to the rest of life, its place in the school, and the approved methods of teaching it. This new "atmosphere" the normal school must breathe from the start. What higher pure mathematics does the prospective junior-high school teacher need than that which he already has had in the high school? To answer this, ask what concepts and skills and information he needs to have strengthened or even first imparted. We may name (1) formula work, (2) graph work, (3) concept of the function, (4) trigonometry, (5) computation, (6) drawing, (7) properties of solids. For formula work, go to trigonometry; for graph work, go to analytical geometry; for the concept of the function, go to the calculus; for computation, go to logarithms; for drawing and the properties of solids, go to descriptive geometry. Here then is a basis for the work in pure mathematics in the junior-high school. Following is the outline of the course suggested:

First year:

Second term: trigonometry and logarithms, with emphasis on the graph, formula, computation, and checking.

Content:

Introduction to coordinates.

Trigonometrical functions and fundamental identities.

Solution of right triangle.

Logarithms and the slide rule.

Solution of right triangles using logarithms.

Third term: trigonometry with emphasis on the formula and computation.

Content:

Functions of any angle.

General formulae—trigonometrical identities and equations.

Solution of triangles.

Second year:

First term: analytic geometry, with emphasis on the graph, formula, and concept of the function.

Content:

The point.

The locus and equation.

The straight line.

The conic sections.

Polar coordinates.

Second term: the calculus, with emphasis on concept of the function, formula, and the graph.

Content:

Functions and limits.

Fundamental differential formulae.

Applications.

Partial differentiation.

Integration.

Applications of integration.

Third term: descriptive geometry, with emphasis on drawing and properties of solid bodies.

Content:

Representation by orthographic projection.

Problems of surfaces and their intersections.

Shades and shadows.

These courses are not meant to be exhaustive or complete treatments of the subjects, but rather selections and adaptations out of the range of material. The work of these five terms is entirely purposive. The teaching has but one point in view: the creation of an appreciative attitude toward the elementary content of the junior-high school curriculum by thorough grounding in the basic concepts. The instruction should bend every means to this end, and should daily stress the emphasis for which the several courses were planned. The method of attack and means of illustration and development should be models for the future teacher. Wherever possible, teaching principles should be noted.

Besides these advanced courses, however, the student needs a background of the applications of arithmetic. Hence is suggested for the

Second year:

Third term: applications of arithmetic to commercial, economic, and civil problems.

Parenthetically, it may be remarked that this arithmetic course should be social rather than merely arithmetical in content, teaching the facts of everyday life that have an arithmetical bearing. This course needs to be adapted to the kind of schools that the normal school feeds,—rural, town, industrial centers, suburban, city,—and the material should be adjusted accordingly. Besides the subject-matter, emphasis will be placed on adaptation to the interest and needs of the child as a future citizen, and the means of motivating and introducing the various subjects. A suggestive list of topics is: Interest, with emphasis on present-day commercial methods; accounts, discount, exchange, metric system, insurance, banks, taxes, corporations, investments, industrial problems, farm problems.

No course, to be sure, can attempt to cover all these, and the other equally relevant topics which are not put down. They are only suggestive, and choice must be made to fit the locality and the interests of the instructor.

In the first term of the third or fourth year a course in outdoor mathematics could be given with profit. Such a course would deal with simple surveying, giving special emphasis to the finding of inaccessible heights and distances, map reading and map making, and a study of those measuring instruments patterned after old models, which the boy could easily make for himself. Work of this nature is rich in geometric suggestions and full of interest to the adolescent.

Third or fourth year:

First term: outdoor mathematics.

Content: simple surveying, maps, measuring instruments.

But a person with only a grounding in the subject-matter and principles of a science is not entirely prepared to teach it effectively. The material must be organized, and the teaching methods peculiar to the subject must be studied. Following is an enumeration of the specific things needed in an additional course, *a curriculum course,"* as Dr. Bagley has designed: (1) A study of the social need for various topics, in the light of present-day requirements; and with it, for the sake of perspective, an account of the historical evolution of the several topics in the face of changing social needs; (2) a statement of the objectives of mathematics teaching; (3) an outline of the courses designed to reach these objectives; (4) a study of the approach to various topics, considered in the light of their historical evolution, and in the light of modern psychological studies, wherever such studies have been made. It is unfortunate that students must approach this work with inadequate sociological and historical backgrounds. They neither have the framework of sociological concepts as a basis of judging present needs, nor the historical framework necessary for an understanding of the significance of the past. To be concrete, take the case of interest. In the course on the applications of arithmetic, modern commercial methods of computing interest will be taught, such as the 60-day method and the use of interest tables. However, when the teacher gets out in the field, he will find arithmetic books with other methods, and for impossible periods of time. Hence, somewhere he should be shown the practical situation in which occurs the need for interest computation and which determines the method employed in the business world today; and along with this the historical reason why these other methods are found in our text books. The former he will not understand without a comprehension of the texture of society today, especially in its commercial and industrial aspect, and the latter he will not comprehend without a framework of historic periods. Hence, we propose:

Third year:

First term: history of mathematics.

Content: A chronological study of the history of mathematics, comparing each era with the present situation, sociologically considered.

Historical development of teaching of arithmetic, algebra, and geometry.

Recent movements and tendencies in the teaching of mathematics.

Third year:

Second and third terms: Curriculum course in junior-high school mathematics.

Content: Reasons for studying and teaching mathematics; the motive and emphasis of mathematics in the junior-high school.

The course, responding to present social practice and studying the present course from the historical standpoint.

The approach to different topcis, motivation from psychological and historical considerations.

Foreign secondary mathematics, methods of teaching, methods of study, drill, the problem, standards and tests, text books and reference books.

Of curriculum making there is no end. But curricula are worthless without teachers. Before the suggestions outlined above can be made effective, men and women must be found that have a sympathy with the junior-high school, the problems and needs of the normal school, and the value and place of mathematics in education and in the life of today.

TRAINING DEPARTMENTS IN THE STATE NORMAL SCHOOLS OF THE UNITED STATES: A REVIEW

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The caption of this article is the title of a doctor's dissertation—that of Dr. Lester M. Wilson. The monograph is published by the Eastern Illinois State Normal School under the date of October, 1919, but has recently been issued. The present article is, in a word, only an extended book review. Three facts appealed to the reviewer as warranting a somewhat more detailed treatment of this than is usually given to new books: to begin with, the dissertation is the first to come from the first (and thus far the only) university department of education devoted to the specialized problems involved in the professional preparation of teachers; second, the dissertation represents a new and more liberal conception of the character of contributions acceptable as doctor's dissertations, the weight of its contribution falling upon constructive suggestion; and third, the dissertation itself represents the kind of professional focussing that seems to be most needed in the field of the preparation of teachers. Aside from the Carnegie Foundation *Curricula* (1917) and the unique Bulletin Number Fourteen on the Professional Preparation of Teachers (1920), to both of which the dissertation is obviously heavily indebted, the monograph under consideration contains the most fruitful suggestions yet made available for workers in the specific field of its concern.

The scope of the study is indicated in the author's statement of purpose: to find "(1) What the training facilities of state normal schools are and how the training departments are organized; (2) the amount and nature of the students' contact with the training departments; (3) the relation of the teachers in other departments of the normal school to the work of the training department, and the participation by the training school staff in the work of other departments; and (4) what purposes the training departments propose to accomplish and how the training departments are organized to accompuish these ends" (pp. 16-17). In working on these problems the author studied one hundred normal schools representing probably all the diversity of conditions and procedures to be found in state normal schools.

In connection with each phase of his study the author takes due account of the few outstanding contributions to the problem which previous students have made,—notably, for example, the critical analyses of Kelly and Scott (1915), Judd and Parker (1916), Sanders (1918), and the dynamic conception first embodied in the Carnegie Foundation *Curricula* (1917). To the meager results of the few quantitative studies bearing on this problem he adds positive opinions from leaders in the normal-school field, and judgments of normal-school graduates concerning the relative value of various phases of their normal-school preparation,—which last "confirm the opinion of persons engaged in normal school administration, that the practice school is the department of the normal school about which the curriculum for the training of teachers should be organized" (p. 16). It is especially interesting in this connection to find that clearly formulated opinions about so vital a matter should actually be so little in force as the study shows them to be. Incidentally, various other opinions about normal-school conditions are confirmed: that of Sanders, for example, that "There is among normal schools no recognized best way to develop a student teacher." Dr. Wilson's study is an attempt to promote agreement about essential phases of this work.

The monograph is clearly valuable as affording a perspective over present training-school procedure in all its diversity, and over constructive criticism concerning it. But its chief, and very considerable, values lie in quite other directions. To the reviewer they seem to be of three sorts: (1) the clear formulation of the nature of the task of training teachers; (2) the great suggestiveness of the author's assembling of successful practices from many normal schools operating under all kinds of conditions; and (3) the practical wisdom of the numerous constructive suggestions made for capitalizing in one school the variety of successful practices brought to light in the examination of many schools,—the emphasis, characteristic of the monograph, upon unrealized opportunities to integrate and professionalize teacher preparation. A mere review can hardly even illustrate each of these.

The author begins with a statement of the general problems and requirements of vocational education in its two-fold problem of transferring *skill* for relatively constant and recurring situations, and of giving *education* designed to prepare students to deal intelligently with *variable* situations. He sets forth concisely the principles of preparation accepted in such professions as medicine and engineering, which like teaching involve both constant and variable conditions, and commits himself definitely to the proposition that participation in teaching situations from the beginning of the course is the proper teacher-training procedure: "*Whatever* the level upon which vocational skill is to be exercised, vocational education *must* be organized *about* opportunities for the exercise of *that* skill" (p. 6). "*Only* by experiences involving responsible activity in teaching situations can teaching skill be increased" (p. 113).

The sorts of conclusions that follow from this point of view have perhaps been clearly enough stated already by various critics. They are, for example, clearly stated in opinions from normal schools where they are not actually very much in force. The theory, however, gains a cogency of concreteness that is quite fresh, from the marshaling of illustrations of various phases of its sporadic actualization in present practice. After examining the numerous fragmentary ways in which teacher-training is somewhat "organized about" participation and practice, the author concludes that "there is *no sort* of work carried on in normal schools that . . . is not being made to have its *direct* relation to the work of the training department, and to bring students into contact with the children of the training school" (p. 42). From this it is only a step to the conclusion that "What is done successfully and profitably in one school can with certain limitations be done equally well in another. More attention and effort should be given to making the excellencies of one school common to all" (p. 49). "It is unreasonable to expect that every school shall do everything as well as any school does anything; but it is reasonable to expect that every school shall attempt to do as well as it can the things that other similarly situated schools have found it profitable to do in accomplishing the purposes which is common to all" (p. 66). This in effect summarizes the monograph. The normal school when completely professionalized is to integrate all the activities of the school. "An indispensable step in the process of making the training school the central feature of the normal school" is the purposeful involving of normal-school teachers in active and continuous responsibilities in the training school" (p. 51); and "it is not less important that members of the training-school staff should take part in the teaching of normal-school classes" (p. 52).

These conclusions are supported by abundant examples of successful practices covering nearly every possible kind and amount of interrelation,—though "no one school is doing everything that is being done somewhere among the schools studied" (p. 64). The idea of a highly integrated set of normal-school activities is gradually exhibited. "Among the normal schools studied practice teaching is the one type of student contact with training school children which is provided by all" (p. 38). Most provide for observation and discussion of the work observed. "Beyond this the amount and nature of the contact of students with the practice school depends upon the interest of the particular teachers using the facilities of the training school in connection with their courses. If the number of such teachers in a school happens to be large the variety of courses involving contact with the training department is large; if such teachers are few, the contact of students with the training school is less" (p. 39). This may mean that if the normal-school president is keenly alive to the nature of his responsibility he selects teachers having such interests. It apparently means also, in some cases at least, that the need of a thoroughgoing organization of interrelations is not felt (p. 55). "The most satisfactory arrangement for training purposes is probably (1) a school located in the normal school grounds and completely under the control of the normal school, where demonstration teaching, observation, preliminary participation, and first practice teaching may be done . . .; this supplemented by (2) training facilities in public schools" (p. 20). Most state normal schools have the first, though in few cases at all adequately. Few have the second. The first is "indispensable for observation, preliminary participation, demonstration, and first practice teaching;" and without the second "student teachers are inadequately prepared to meet the school-room conditions of the public schools" (p. 21). So, "Apparently the most imperative need for change in organization in training departments, therefore, is a change which will make more general the use of the public schools for supplementary practice teaching" (p. 22). "The important problem is to increase opportunity for completely responsible teaching as a *final* type of professional preparation".(p. 41). "The teacher training curriculum should include teaching under such conditions that the graduating student is prepared to undertake fully responsible teaching under a minimum of supervision, and under supervision which is more clearly *coöperative* than *directive.* Single-period, small-group practice teaching does not give this preparation" (p. 47). "If the work of the normal school is to be completely professionalized, the students in the normal school should be in very definite contact, throughout their entire course, with schools similar to those in which they are preparing to teach. Every principle of vocational education . . . implies that the curriculum should provide for such contact from the beginning" (p. 28).

Such a program is obviously in need of much illustration. The author proceeds to indicate "how the varieties of student contact with the training department and of participation by normal school teachers not on the training school staff, which have been found in the schools studied, might under favorable circumstances be put into operation in a single school" (pp. 66-74). The idea of graded participation in school-room activities beginning with the simplest responsibilities and culminating in a period of concentrated practice teaching paralleled with courses in class-room management and the technique of teaching is sketched in, rather hastily and roughly, with brief suggestions regarding the nature of the correlation to be expected from each of the courses in the normal school departments. Rough though the sketch is, it is nevertheless a stimulating one and goes far toward defining the nature of the problems to be met in making the training school central and pivotal. The program is obviously a very complex one; but as solutions are not usually less complex than the situations for which they are devised, this is no objection. It seems a feasible program, and administrative inconveniences are not cogent as arguments.

The five major difficulties in such a program, which normal-school presidents and training-school directors brought forward (p. 42), are met on the sound basis of the needs of the service, the successful practices of various schools, and the ethical and professional responsibilities of the normal school president. "Normal schools need teachers having particular interests and abilities, and it is essential that competent teachers be sought and offered such inducements that they will come into and stay in normal school work. Any hardship or inconvenience involved for persons already teaching in normal schools who can not do the sort of work that needs to be done in a school for the professional preparation of teachers is to be regretted; but while such suffering may be acute at the moment, it will be an economy of suffering to have it concentrated rather than long continued in the form of irritation and distaste attendant upon remaining in the sort of work for which one is not well fitted" (p. 76). This, of course, is a final rather than a first counsel for such situations, and as such there can be none better,—though it is *first* counsels that are especially needed. With the foregoing counsel goes, by implication, that of the removal of administrators who do not duly appreciate the requirements of the professional preparation of teachers. Other objections are met with similar courage. The plea of lack of funds is met by the only possible counsel, the conviction of the need of funds must be worked up: "School administrators have two important tasks. One is to fit the work of the school to the facilities provided by the governing boards and the legislative bodies. The second is the preparation of programs of procedure for the guidance of these boards and legislative bodies in the appropriation of funds" (p. 77). Other significant objections are met in similarly cogent fashion: overcrowded teaching schedules, confusion through interrelation, short curricula. The last leads to the examination of the four-year curricula of schools operating also two-year curricula,—with the significant discovery that apparently the additional two years are much less professionalized than the first two. This seems to indicate that the real difficulty may be lack of appreciation of the value of professional as against academic preparation. The author takes the stand that "The justification for extended curricula [in normal schools] *must* be that they offer a kind of training not now offered by other institutions [liberal arts] . . . The addition of two years of work that are less professional than the two years now offered by most normal schools cannot but weaken the whole professional work of the school" (p. 43). The validity of this conclusion is obvious.

Before closing this review a fourth value of the monograph may well be mentioned,—*viz.*, the numerous glimpses it gives of other problems that need to be worked out in the field of teacher preparation. For example, the relation between the initial preparation of teachers and the kind and amount of public school supervision that has developed (p. 47); the specific responsibilities of each of those who are concerned in organizing and operating the various training school positions and the special types of experience and training needed, the sort of training now available, etc. This recalls the "blood and iron" counsel of page 76. Perhaps "teachers are to be found who are able and willing to carry out such a program"; but in view of the present sources of normal school teachers and the kind of preparation now available for them in colleges and universities, it may reasonably be doubted whether a sufficient number of professionally ready normal school teachers are at any time available for more than a few valiant (and favorably located) administrators. It seems reasonable to insist upon a third major responsibility for normal school president (p. 77), responsibility for the development or capitalizing of all the various opportunities, which exist in every normal school, for prompting the adjustment of subject matter specialists to the requirements of the preparation of teachers. Here, too, investigation would undoubtedly reveal a considerable variety of successful practice in the actual training in service of normal school teachers. It would be well if there could be a similar bringing together of successful practices in this particular problem.

In this long review the faults of the monograph have been touched but lightly,—because the more important deficits of the study seemed to the reviewer to be largely inherent in the attempt to be constructive. It is more reasonable to be grateful for being set definitely ahead than to be petulant over difficulties that remain unsolved.

There are faults in the monograph, however, in regard to which criticism can not be waived on the score of the necessary incompleteness of constructive work. Some of these are minor,—as for example, the "typographical errors," or misspellings, which occur so frequently as to suggest a carelessness that might extend to matters more important. Along with this may be mentioned the occasional failure to transcribe titles accurately. More important is the failure (in at least one instance) to make accurate citation of an article referred to. Except the last, which might be worse than merely vexatious, these are all matters of small importance in themselves; and yet it seems proper enough for an author to regard them all as important. Finally, however, and no doubt quite innocently, the monograph by certain omissions raises a nice question of professional ethics. It would at all events be distinctly the better for various specific acknowledgments of indebtedness which it fails to make.

A TWO-YEAR NORMAL SCHOOL CURRICULUM FOR THE TRAINING OF TEACHERS OF HOME ECONOMICS

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An investigation of the courses of study in the normal schools shows that there are now being offered four distinct types of courses in home economics.

1. A basic course for all women students.
2. A course for rural school teachers.
3. An elective course open to all students.
4. A course for the training of special teachers of home economics.

I believe that there should also be offered another course which might be called a survey course for principals and superintendents. This course, as the name indicates, would provide a survey of the field which would give these principals and superintendents sufficient knowledge of the subject to supervise the work of the special teacher much more efficiently. In far too many of our public schools, the special teacher is receiving little or no supervision, and a lamentably small amount of constructive criticism.

There are those who are interested in school problems who maintain that it is not the function of the normal school to prepare special teachers. If the primary function of the normal school is to prepare teachers, then why not the teacher of a special subject as well as any other? The normal school has all the advantages of the professional atmosphere, the educational library and equipment, and offers the best opportunities for practice teaching. However, in states where there are several normal schools, it is not necessary that each school should prepare all types of special teachers. Each school might prepare one or two types only, following the plan now in use in Wisconsin, which seems to be working in a very satisfactory manner.

It is, of course, conceded by all that the teacher of a special subject should have four years of training. However, the day when we can require that in all states is still some time distant. The task of planning a four-year curriculum is easy when compared with the difficulties which arise when trying to plan a two-year curriculum which will really be efficient. It has already been proved by some schools that the graduates of the two-year course in home economics are equally as good teachers as are the graduates of any other two-year course. Therefore, I have chosen as my problem the planning of such a course, since this is the vital question in many schools.

An investigation of courses of study in normal schools which are now giving the two-year course for the training of home economics teachers reveals some interesting facts. In order to make a comparative study of these courses, I divided them according to subjects and hours under the following headings:

I. HOME ECONOMICS: 450-680 hrs. A. *Domestic science:* foods and cookery; household management; home nursing; dietetics and nutrition; laundering. B. *Domestic art:* sewing; dressmaking; millinery; textiles.
II. EDUCATION: 126-360 hrs. Psychology; methods and observation; child study; history of education; principles of teaching; school management; school administration; special methods—home economics.
III. SCIENCE: 132-528 hrs. Biology; physiology; hygiene; chemistry; botany; bacteriology; sanitation; physics.
IV. ARTS: 36-400 hrs. Penmanship; drawing; woodworking; art appreciation; design; home decoration.
V. PRACTICE TEACHING: 120-252 hrs.
VI. ADDITIONAL REQUIRED SUBJECTS: 126-456 hrs. English; physical training; history; sociology; economics; commercial geography; rural sociology; library methods; gardening.

This shows a remarkable variability in the quality and quantity of the subjects in the several curricula. Although the summary does not indicate the contents of each course, it is interesting to note that the home economics courses vary the least. This seems to indicate that, although our subject is new in the schools, there is a fairly good agreement as to what should be included in a two-year course for the training of teachers.

We shall consider the above subjects in order.

I. HOME ECONOMICS.

The subjects which vary most in this group are those on the house (planning, furnishing, and care) and those in sewing and dressmaking. In some schools it seems to have been forgotten that the absolute necessities of life are three,—food, clothing, and shelter,—for the third of these is generally neglected. Much of the work in foods and clothing will not function properly unless linked up with the house, and a good course in home management, in which there can be a study of their relative values in the home, as to time, labor, and expenditure of money, should be a part of each curriculum. The final test of the whole two years' work on the subject-matter should consist in actual practice in the management of a house,—whether a "practice house," the girl's own home, or some other home in the community,—under the direct supervision of a teacher. A majority of the normal schools are now furnishing such an opportunity.

The amount of time given to sewing and dressmaking seems to vary with the location of the schools. The making of garments is fast ceasing to be a home occupation and most of our clothing is bought ready made. In our clothing courses the emphasis is consequently placed on the study of materials, as to durability and suitability; on the study of garments, as to design and workmanship; and on repair, renovation, and remodeling. Where the population is largely rural, however, and where there are few large cities and a relatively large number of villages and small towns, a good deal of garment making is still done in the homes. In those states the normal schools are still giving good courses in garment making.

The home economics courses are much better examples of professionalized subject-matter than many of the subjects that have had a place in the curriculum for a much longer time. They are also furnishing excellent examples of the use of the "project method."

II. EDUCATION.

There are two courses which are found in all curricula although varying in amount: namely, psychology and methods. The majority of the schools still include history of education, while a minority include school management. It seems to me that both of these might be omitted from the two-year curriculum in home economics.

Special methods in home economics is given in every school. This probably is not a satisfactory name for the work which is included in this course, since it is rather more the planning of courses of study for the grades and the high school, and a study of equipment than the study of method. Such a course might be more properly called the "organization of home economics."

III. SCIENCE.

Here is one of the places where the greatest variability occurs; some schools give very little science and others give a great deal. There is no question of the close relation of science to home economics; indeed, such subjects as chemistry and physiology form the basis for much of the work. The amount of science which is included in the curriculum seems to depend upon two things: (a) The state requirements for certification and (b) The influence of individual members of the faculty. In states where only one kind of a state certificate is granted and this requires a certain amount of mathematics, history, and English, there can be only a small amount of science in any specific curriculum. In other states where special state certificates are granted, more science can be introduced. In some schools it seems clear that certain subjects have been introduced into the curriculum because of the fact that this particular subject is taught by a strong teacher and one who has influence in determining what subjects shall be included. This is especially true in those science subjects that have less direct relation to home economics, as agriculture, botany, geography, and physics.

There does not yet seem to be any unanimity of opinion among normal school teachers of home economics as to what sciences and how much of each will serve best for their purposes. This may be due to the fact that these teachers do not have a sufficient knowledge of science to enable them to select the important things, and also because so many teachers of pure science cannot see the value in teaching the applied phases that are necessary and helpful in home economics.

Without question, physiology and hygiene have a place in the course. Chemistry also has a place, but the kind and amount actually required varies greatly. General biology and sanitation are included by most schools. Physics and bacteriology are more variable and seem to depend upon the qualification of instructors. If the teacher of any of these sciences gives an applied course which actually functions, it undoubtedly has great value.

It is an open question whether it would not be well to organize a course in general science which would correspond in a way to the elementary science now given in many high schools, and which would give the essential facts of physics, bacteriology, botany, agriculture, and geography, needed for the teaching of home economics. Unfortunately, we still have to consider the question of college credit. Our hope here is to influence the colleges and universities to give credit for some subjects not now included on their list.

IV. Art.

Art varies as much as science and for the same reasons. The greatest difficulty is in securing art teachers who are competent to teach applied art. It is a shame that more attention is not given to this important subject. Beauty and harmony are two things that are lacking in many of our homes today. If we could only have these in every home much of the drudgery of housekeeping would be alleviated.

V. Practice Teaching.

The opportunities for practice teaching are usually good. In many instances the local schools can be used in the teaching of a special subject even when not used for the regular grade work. The director of the normal school department of home economics should also be the city supervisor of the subject or a member of the city supervisor's staff.

VI. Additional Subjects.

The additional required subjects vary so much in the different schools that it is almost impossible to make comparison. They are largely controlled by the state certification laws. Many of these subjects are valuable, if for appreciation only, but in a two-year program it is impossible to include anything except the absolute essentials.

As yet it has been impossible to presuppose that the girl entering normal school has had any training in home economics. We should, however, be able to assume good work in English, mathematics, history, and geography. If this work has been properly done in the grades and high school, it should not be necessary to give additional courses in a two-year curriculum in home economics in the normal school. Since English is so important and the ability of high school graduates varies so much, I should rather suggest an entrance examination in that subject, and that those who are delinquent be required to take without credit certain basic courses before graduation.

Of the other subjects, probably economics and sociology are the most important and should be incorporated into the curriculum whenever possible. One normal school uses the device of requiring one summer session in addition to the two years, which is a good method of including two or three additional subjects.

A SELF-SCORING CARD FOR SUPERVISORS AS AN AID TO EFFICIENCY IN SCHOOL WORK

KATHERINE TAYLOR CRANOR.

One of the great needs of our present school system is better supervision. This is not only true of the public schools but of the departments in the State normal schools, colleges and universities as well. Every one realizes that the position of supervisor is not an easy one to fill. Fine educational, social, and personal qualifications are necessary in order to fit one for the work in supervision.

In the working out of the score card presented here an attempt has been made merely to list and evaluate the most important of these qualifications. The aim is not to measure the efficiency of the supervisor's work, but rather to call to her attention certain desirable qualifications, with the hope that the scoring of the various points may lead to reflection along these lines and result in higher ideals and standards of educational efficiency among supervisors. The supervisor needs nothing more than she needs a truly critical mind toward herself and her own work. She needs to be fairminded, openminded and big enough to be able to put aside her own private interests and to be willing to work for the good of the whole. The conscientious self-scoring of certain desirable qualifications of the supervisor should lead to better training, more democratic leadership, and to a more helpful attitude toward her fellow workers as well as to a bigger interest in society as a whole. It would be hopeless to attempt to use a self-scoring card as a measure of efficiency, from the fact that it is not possible to measure with any degree of accuracy one's own ability and personal or social qualifications. No one person is capable of judging, or should presume to judge unaided, the fitness of teachers for their work. When rating of any kind is done it should be by a group of people rather than by any one person and the teacher should have a chance to rate herself and consult with the group who are passing on her efficiency. There should be, and no doubt will be in the near future, some more accurate means of measuring the work of the supervisor. This will put both teaching and supervision on a more scientific basis.

Some attempts have been made to devise satisfactory means by which the qualifications of teachers may be measured. In 1910 E. C.

Elliott (8) worked out a scheme for observing and measuring the class room of teachers. This was followed by Boyce (2), Johnson (11), Lansitte (15), Rugg (24), and others. One of the most interesting of these rating systems is the self-rating scale which has been worked out by Rugg. It is modeled after his army scale. It gives the teacher a chance to criticise and check up herself. In this scale the rating may be done by both the teacher and the administrator. Rugg's scale also provides for a man to man comparison. This self-scoring card for the supervisor might be simplified by dropping or combining some of the sub-topics and used by the administrator. much as Rugg's score card, in judging and helping supervisors to bring their work up to a higher level.

The score card as worked out here is intended for supervisors of special subjects rather than for the general supervisor, principal or superintendent. It seemed best to work it out on a basis of 1000 points rather than 100 because the larger number of points affords opportunity for finer differences between qualifications which are to be scored, especially as there are several under one general heading. Six main topics are necessary to cover the points to be considered. They are not arranged in order of their importance or value as to points, but this order of arrangement was made because it seemed most logical. Last summer, after the score card was finished it was given to Mr. Hosic's class in supervision (Summer Session, Teachers College), to be criticised and weighted. A few slight changes were thought necessary. These were taken into account and the median of the class weightings were used in determining the final weightings for the card. The score card is as follows:

Self-Scoring Card for Supervisors.
(As a means of self improvement)
Score 1000 points.

A. Educational, Social and Personal Qualifications 200

- a. Liberal education. 40
  - 1. General Education.
  - 2. Training in special subject.
  - 3. Educational view point.
  - 4. Breadth of vision.
- b. Tact. 40
  - 1. Ability to understand and to get along pleasantly with people.
  - 2. Ability to inspire teachers to do and give their best.
  - 3. Wise management of teachers and of pupils.
  - 4. The ability to gain and keep the respect of teachers and pupils.

	c. Tolerance.	35	
	1. Respect for the opinions of others.		
	2. Consideration.		
	3. Openmindedness.		
	4. Broadmindedness.		
	5. Unselfishness.		
	6. Democratic view point.		
	d. Poise.	35	
	1. Pleasing, gracious manner.		
	2. Ability to meet people with ease.		
	3. Dignity.		
	4. Self control.		
	e. Appearance.	30	
	1. Dress (simple, becoming).		
	2. Neatness (person and dress).		
	f. A cheerful, happy, good disposition, and a sense of humor.	15	
	g. Qualities of leadership.	30	
	h. Loyalty to superior officers.	30	
	i. Ability to speak before an audience.	5	
	j. Patience.	5	
		260	
B.	*The Course of Study*..		140
	a. Ability and disposition to cooperate with teachers and others who are concerned in the making of the courses of study.	30	
	b. Ability to work out a course of study which is well organized, flexible, suited to conditions, workable and psychological in arrangement.	80	
	c. Ability to interpret the course of study to teachers.	30	
		140	
C.	*Relationship to Teachers*..		200
	a. Wise selection.	30	
	1. Pleasing personality.		
	2. Desirable social qualifications.		
	3. Training and experience.		
	4. Teaching ability.		
	5. Breadth of view.		
	b. Consideration of the health of teachers.	20	
	c. Growth as the result of wise supervision.	30	
	d. Encouragement of self improvement through study, and through extension and summer courses.	20	
	e. Effort to give teachers an opportunity for 'initiatives,' growth, development, and advancement as to salary and rank.	25	
	f. Effect of supervision on the lives of teachers.	25	
	g. Skill in helping teachers to realize the necessity of, and how to identify themselves with the religious, social, educational, and recreational interests of the community.	30	
	h. Ability to cooperate with teachers, to see that their view point and to utilize the ideas, experience and material which they are able to contribute.	30	
		200	

D. *Duty Toward Instruction*		300
a. Visiting classes.		
1. Helpfulness.		
2. Unobtrusiveness.		
3. Tactfulness in giving criticism, constructive criticism based on educational principles.		
4. Ability to cooperate with teachers in getting over the course of study.		
5. Helpfulness to teachers in maintaining a high standard of work.		
6. Skill in conducting model lessons.		
7. Helpfulness in the working out of a grading system which will be an accurate measure of instruction.		
8. An interest in the social, physical, and moral well being of pupils.		
		300
E. *Attention to Details of Work*		50
a. Ability to select texts, reference books, illustrative and demonstration materials. Careful reviewing of books.	20	
b. Routine work.	30	
1. Reports.		
2. Correspondence.		
3. Meetings.		
4. Consultations (teachers and pupils).		
	50	
F. *Publicity*		50
a. Dealing with pupils.	10	
b. Community spirit and interest in educational extension.	10	
c. Educational exhibits.	10	
d. Newspaper reports.	10	
e. Parent-teachers' associations.	10	
	50	
		1000

In the weighting of the score card 260 points were given to *Educational, Social, and Personal Qualifications,* because it is one of the most important headings. The first sub-topic, a liberal education, is of course quite necessary to successful supervision. In addition to training along the line of her specialty, the supervisor needs all the general education possible. This is essential in order that she may have the breadth of vision and interest in modern education which are so necessary for a person in her position. Nothing could be of more importance than *tact,* the second of the sub-headings. The supervisor who has this quality is fortunate indeed. Tact is the ability to handle a difficult situation skillfully and happily and helps one to gain and keep the respect of those about one. It seems to oil the wheels and help things to run smoothly. Tact will accomplish almost anything. It is in a way a gift, yet, it may be cultivated. When *tolerance* is discussed one wonders how any one can be truly big who is intolerant. The supervisor should cultivate this virtue in order to be able to see the other person's side of things. She should be willing to have the teachers with whom she works differ with her in opinion. Tolerance will help her to be considerate of the feelings and rights of other people. It will make her big enough to welcome opinions, willing to be convinced, and glad to make use of the suggestions of another when she knows that they are better than her own and willing to give a teacher credit when she is able to suggest or do something really worth while. The tolerant supervisor does not feel that the work of all of her co-workers must redound to her own honor and glory. The supervisor needs a truly *democratic point of view,* needs to be human, and to have a fellow feeling. *Poise* is another important quality. It is a joy to be with a person who has a quiet, refined dignity, a gracious manner and sufficient self-possession to be at ease under any and all circumstances. *Appearance* is the last of this group, but it is none the less important. Simple dress suited to the occasion, and to the individual, adds to the charm and dignity of any woman. To be immaculate as to person and dress means much in any profession. The person who makes a good appearance is more apt to get and hold a good position than the one who disregards personal appearance altogether. Then too it helps in gaining and keeping the respect of those around one and through example teaches the pupils a good lesson.

A cheerful, happy, good disposition and a sense of humor, keeps one young and makes it possible for one to live comfortably with other people, and brings happiness to those around as well as to the person herself. *Leadership* is a quality which the supervisor must possess if she succeeds with her work but this leadership must be constructive. The supervisor must study the work of the teachers and know the needs of each, must give them an opportunity to make suggestions as to the work and to develop 'initiatives.' She must so direct the work as to make sure of results. She must be a leader in education, must keep in touch with all of the big movements in education, must read, know what is going on around her, be progressive, constantly improving herself, and not satisfied with the training which she received twenty years ago. She should make an effort to be the kind of leader who gains the love and friendship of those around her and not a leader of the military type.

Loyalty to superior officers is quite worthy of serious considera tion and is a most important quality in a supervisor or a teacher. The only way to make a success of her work as well as that of her superior officer's is to give wholehearted cooperation. "A house divided against itself cannot stand." The last two topics, *ability to speak before an audience,* and *patience,* are both minor qualifications but are worthy of mention. The first is highly desirable but not necessary. The latter if cultivated prevents wear and tear and is, like a sense of humor, a saving grace. Patience is a flower of slow growth, yet a rare one. Some might say,—"But a person is not responsible for her personality or certain social qualifications. These are not really the result of education." That is true in a certain sense but it is not altogether the case. It is possible to improve one's personality and social qualifications if one is but willing to give time and thought to doing it. Another might say that "Not one woman in a thousand would be able to measure up to the standard set in this score card." That again is true but the only way to really accomplish anything worth while is to set a high standard for one's self and diligently work toward the desired goal, and to be satisfied with nothing short of the best. Education without certain personal and social qualifications is not dynamic.

The Course of Study was considered of less importance than the first heading, *Educational, Personal, and Social Qualifications;* so a score of 140 points was given to that. The right kind of course of study means a great deal but it is more than likely that a supervisor who is thoroughly trained and who has the personal and social qualifications listed, will do good work even though the course of study was not so well planned. Then too those qualities would go far toward helping her, under any conditions, to make a success of her work. The supervisor has a large part in the making of the course of study. It is important that teachers be given an opportunity to cooperate with her. The wise supervisor will plan to use the best that each has to contribute; she will see that each has the task which she enjoys most and can do best. It is also of value to employ the services of an expert in this line and to have the approval and advice of the administrator of the school. This cooperation tends to better results and gives a better balanced course. It is less likely to be one-sided and is the only fair way of working. It brings about good feeling and is a means of giving teachers a real, live purpose in the work. It is also an opportunity for growth and is more democratic. The second topic, *Ability to work out a course of study which is well organized, flexible, suited to conditions, workable, and psychological in arrangement,* seems practically to cover the whole thing. In this should be included a statement of the purpose of the school, a perspective view of the course as a whole, including the range of activities, materials for study which will utilize and enlarge the experiences of the pupil in the working out of such projects as will lead to worthy purposes, "to wholehearted purposeful activity," thus giving an opportunity for purposing, planning, executing, and judging. A course of study should contain such material as will tend to develop judgment and 'initiatives' and be of "value in controlling conduct," help to shape the pupil's "attitudes of mind, habits of thinking, standards of appreciating, and basis of choice." It should contain materials which will help the children to desirable experiences through the use of such tools, as reading, writing, etc.; experiences which will enrich their lives and enable them to grow and develop into intelligent human beings, capable of enjoying and of coming into their social inheritance in the true sense of the word. In order to be usable the course of study must be flexible, suited to the various schools, one which provides for correlations, and individual differences, bringing into use instincts and the laws of learning. In addition to all of this the course of study must provide material which will stimulate teachers to scholarly study and to the development of high ideals and purposes in all school work. Then again it must be easily revised, give annotated references. illustrative and demonstration materials, indicate standards of attainment, give suggestions as to methods and time, and also make provision for measuring instruction. The course of study of tomorrow must be quite different from the cut and dried document of the past, must rather be a thing of life, which makes for 'initiatives,' activity and growth on the part of both teachers and pupils. The last point, Ability to interpret the course of study to teachers, is an important function of the supervisor. She should be able to help them to understand it. This last topic refers to the method, the theory, the *how* of it.

Two hundred points were given to *Relationship to Teachers.* One of the first and most important duties of the supervisor is the selection of teachers. As far as possible, every supervisor should have an opportunity to choose her own teachers, (direct assistants). In order to make a wise choice it is necessary to be a good judge of human nature, to be able to look at a person and be able to judge fairly well as to character and capabilities; this comes with experience. Of course every supervisor must inherit some of her teachers, but happy is the woman who has a chance a surround herself with the kind of teachers that she knows will fit into her scheme of work, teachers who have at least some of the same standards and ideals for the work that she has, teachers of pleasing personalities, desirable social qualifications, excellent training and experience, teaching ability and breadth of view. Responsibility does not end with the choosing. This is only the beginning. The supervisor is in a degree answerable for their health, growth, and future. In the first place she should see that each teacher has a comfortable place in which to carry on her work; is not carrying such a schedule as is bound to cripple her efficiency; or that she is not requiring such an amount of outside work that a teacher has no time for recreation or self-improvement. She must help her to get and keep high standards for the work, to base it upon psychology, help her to constantly improve the quality of her instruction, to realize that she is training girls and boys for living, as well as teaching subject matter efficiently. She must give the teacher an opportunity to take the initiative in her work, a chance for self-expression, to think for herself, and give her an opportunity to make suggestions. She must give thought not only to the work but to the needs of the teacher as well. The supervisor must make it possible for the teacher to carry out her ideas and ideals, and yet not force her opinions upon her. She must make herself felt as a leader, friend, and adviser and not as a tyrant. She must cooperate with teachers in their class room work, see their view point and make use of their ideas and experiences. The supervisor must encourage teachers to take advantage of study clubs, summer and extension courses, must prepare them for bigger positions, and recommend them for better salaries when they are worthy of consideration. She must help the teachers to identify themselves with the big educational movements of the country, also to identify themselves with the activities of the community. She can do this partly by example and by giving them a chance to do things; for instance a young teacher might be given a chance to discuss or give a demonstration on some phase of her work before some organization.

Duty Toward Instruction was considered the most important heading on the score card, so it was given 300 points. The supervision of instruction should claim the best efforts of the supervisor. The visiting of classes must be done in the most tactful manner. In order to get the best results the supervisor must go with the spirit of helpfulness rather than that of criticism. She must be careful not to intrude or to embarrass the teacher. First of all she should make an effort to put the teacher at ease, by bringing to her class room a cordial manner and as much good cheer as possible. There is no necessity for looking severe or being ready to find fault. The right kind of supervisor will always look for the best rather than the worst. Criticism to be effective should be made tactfully, preferably incidentally. Attention should always be called to the good points in the lesson. In discussing weak points, the criticism should be made constructive. One should not tear down without being able to build up again. The supervisor must be able to suggest remedies or better still get the teacher to suggest them herself. To be able to criticise effectively yet gently is an art which can only come with practice. Criticism should always be based upon the principles of modern education. The supervisor can, by giving her cooperation, be of great help to the teacher in getting over the course of study. This may be done by giving her definite, clear directions and by talking over the work in detail. If the supervisor has a thorough knowledge of the subject, knows it from every angle, is quick in suggesting remedies for difficulties, is sympathetic, human, and capable of teaching successfully an occasional lesson, she may be of great value to the young, inexperienced teacher. In a college or a university where the head of the department does some teaching, it is sometimes a help if teachers can come into some of her classes. The teacher must be helped to appreciate and maintain a high standard of work. The supervisor who is satisfied with nothing short of the best and is ready with ways and means of helping the teacher to do work of the highest quality and who is able to inspire her with a desire to excel will nearly always be able to maintain that standard. The supervisor may provide or encourage teachers to provide excellent demonstration or illustrative materials. In the teaching of household arts subjects this is very necessary. For example the teacher may show a well made, attractive model. This sometimes inspires the student to greater effort. To get some accurate measurement for instruction is another of the supervisor's duties. When everyone grades in the old way it is difficult to be fair. This is especially true of the inexperienced teacher, who allows her personal feelings to interfere when it comes to grading, hence may grade too high or too low. Some others have a fellow feeling for the pupils and give them all good grades. It is interesting to see how the marks of five or six teachers will vary. When there is some regular system for measuring class room work it is easier to keep a balance, hence the use of some of the standardized tests. These are a help because they show what a pupil should be able to accomplish. These tests show what grades pupils in general make and give information as to the abilities of the individual pupils in a class. By this means the teacher is able to get at the strong points as well as the weak points of her pupils and can better plan instruction to meet their needs. The supervisor must have an interest in the physical well being of her pupils. This may be done by seeing that the class rooms are well kept, well ventilated, that pupils are not over worked, that suitable recreation is provided, and time given for that recreation. She should always see that attention is paid to physical defects, that children who have defective sight, hearing or other troubles be reported to parents and have the thing looked after either by the family or school physician. Pupils should be taught daily, in connection with the regular work, lessons which will bring to their attention a sense of their social and moral obligations. There are many opportunities every day to give good training along these lines. Dewey says that moral training should not be taught as a thing separate and apart." All education which develops power to share effectively in social life is moral. There cannot be two sets of ethical principles, one for life in the school and the other for life out of the school. The child ought to have the same motives and be judged by the same standards in the school as the adult in the wider social life to which he belongs." Teachers and supervisors should have an interest in the social life of the school. Students always appreciate having them interested.

A score of 50 was given to *Attention to Details*. This is of minor importance when compared with some of the other duties of the supervisor, yet, upon this depends the smoothness with which the work runs. Where this end of the work is left to take care of itself there is disorder and confusion and a lack of organization. Helping to select texts, reference books, illustrative and demonstration materials is another of the numerous duties of the supervisor and the success of the work depends to a certain extent upon her ability to choose wisely. A considerable amount of time must be devoted to routine work. Under this come the various kinds of office work, outlines for teachers, letters which have to be written, the budget and the management of finances, if head of college or university department. Teachers' meetings would also have to come in. These would be chiefly group meetings, where plans for work would be discussed, such as ways of improving instruction, and class room management, ways of solving difficulties which have arisen or may arise, plans for mothers' meetings, parents' day, exhibits, and other minor details.

Publicity, the last heading on the score card, was given 50 points. If the school has a publicity committee the supervisor would need to report to them certain things which she wished to get before the public, to make the work popular and to show the worthwhileness of it. She must also interest the teachers in this side of the work, get the cooperation of the community and interest them in educational extension. Much of this can be done through the Parent-Teachers' Associations, educational exhibits, lectures, magazine articles, and newspaper reports.

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VIRTUES AND DEFECTS OF NORMAL SCHOOL TRAINING AS SEEN BY GRADUATES OF TWO, FIVE, AND TEN YEARS' SERVICE.

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Normal-school teachers need to have all the critical reactions to their work that they can get. It would seem that the reactions of normal-school graduates ought to be among the most valuable; so I have attempted to collect representative reactions from a well distributed group of graduates of such schools. The material in this report has been gathered by conversation and by correspondence. It is admittedly meager, but still it seems to present information worth passing on.

There is so striking a similarity in the reports of those graduates of several years ago and in the reports of those of more recent times,—as regards both the virtues and the defects of their normal school training,—that one can see very clearly some outstanding faults of the present situation. There is, however, also enough marked difference in their reports that one can see in part what the trend of improvement has been. As I am, in this work, more interested in discovering the former than the latter, I shall devote most of my attention to that. I shall first consider those virtues in which there is the greatest unanimity in the reports of the three groups. Then, I shall consider the defects in the same order. By doing this, I hope to emphasize the main features of the problem as it is and, incidentally, to indicate along what lines progress has been made or is yet to be made.

With few exceptions, the reports indicate that normal-school training is helpful because of the inspiration in the work of teaching that it gives. Sometimes this is attributed to the influence of a remarkable personality in the normal-school faculty; and sometimes it is attributed to the general atmosphere of the normal school, which (at its best) has but one goal, the training of teachers.

Most of the reports mentioned the sense of responsibility for and the spirit of consecration to the cause of education that normal-school training gives. It is especially significant that greater emphasis was placed on this point by those who had had both a normal-school and a university training. One man went so far as to say that he believed the longer one remained in most institutions of higher learning, other than the normal school, the less interested one became in teaching. While I am not prepared to accept his statement without reservations, I believe he has called attention to a very marked difference in the spirit of the normal schools and that of other schools of similar and higher rank. One young woman made a remark about this that I thought was especially good. She said: "Many times after a lecture by one of my normal-school instructors, I felt almost as if I had been present at a clinic on education. Even such subjects as English and history, when presented by my normal-school instructors, make a different kind of appeal from that made by the presentation of the same subjects by my university instructors. By the former, I have been made to feel that the knowledge I acquire is intended to be passed on and that it brings with it a sense of responsibility to others; with the latter, I have felt that my responsibility ceased with the gratification of my own desires provided that this is enough to meet the expectation of my instructor."

A great many from all three groups said that normal-school training gives the teacher a better professional point-of-view than does the training in other schools. Usually this was attributed to the study of professional subject-matter. But the attitude of the normal-school instructors towards teaching was quite often mentioned as a cause of this. Time and again, it was suggested that normal-school instructors always took the position that teaching should be a profession, that they discouraged the making of it a stepping stone to something else, that they emphasized the professional side of it not only in their lectures but also in their attitude to their own work. I think one statement made in regard to this deserves especial notice: "A higher per cent of the normal school faculty is in closer touch with practical educational problems than are the faculties of other institutions; therfeore they are able to give the student a better professional point-of-view." I believe that the first part of the statement cannot be successfully disputed; and if the second part follows as a result, then certainly normal-school training does something for teachers that they very much need to have done for them. When the teacher can look on his work as a profession rather than as a job, he will take a greater pride in his work and not adopt the apologetic tone so often used by teachers when they acknowledge their calling.

So far there have been few group differences in the reports, except that the teachers of ten years' experience usually mentioned these points early in their reports and the teachers of the other groups usually brought them in at the end of their reports. There was nothing to indicate that one group placed more emphasis on these things than did another group. I am inclined to believe, however, that experience has made the older teacher attach to such things an importance that the less experienced teacher has not fully recognized.

I come now to the virtue of normal-school training, mentioned in all of the reports, but with a marked group difference, namely, the mastery of the art of teaching. The graduates of eight and ten years ago called attention to the value of the study of methods and management, the history of education, the philosophy of education, and psychology, and to the value of the practice of requiring the student to work out a *well-organized plan* for presenting a lesson to a class. It was not till I came to the reports of graduates of five or six years ago that I found mention of observation and practice-teaching, while only in the reports of graduates of two or three years ago did I find mention of practice-teaching under skilled supervision, of professionalized subject-matter, of educational sociology, and of separate departments for the training of rural-school teachers, supervisors, grade teachers, and high-school teachers; so I judge that most of these things are of recent origin in most normal schools.

In a few of the reports of the graduates of very recent times, the idea was brought out that normal-school training is promoting the movement of functional education,—education related to the situations of usual living. From the few and timid voices raised in praise of this virtue of normal-school training, I am inclined to believe it is a "felt need" rather than a realized fact in most instances. However, even that might be considered a virtue.

While these reports may make a very inadequate presentation of the virtues of normal-school training, they do indicate that every teacher has found something that has made more attractive the path he has chosen to tread. They show that such training gives vitality to a work that may easily become deadening and offers scientific guidance to the teacher who would otherwise have to depend on experimentation, a process entirely too expensive when one considers the material with which he has to experiment. They also show that recent progress has been made in developing respect for and adherence to science rather than tradition in education. This, I fear, may easily become a mixed blessing. Some of the best things in a people's life are imbedded in their traditions and there is grave danger that scientific zeal may cause the teacher to assume the same attitude towards the pupil that the surgeon assumes towards the patient upon whom he is operating. But even so, it is no worse to be made the victim of science than it is to be made the victim of ignorance; and the chances of becoming a victim are much less under the hand of the expert than under the hand of the untrained practitioner.

The one defect in normal-school training that had almost universal mention in my returns is what I shall call "too much that does not function." It was spoken of in various ways such as, "too much that will not work," "much that cannot be 'put across'," "too theoretical." The reports of graduates of ten and even five years ago indicate very plainly that the teaching of the principles of education was too abstract, owing to the lack of proper facilities, or the proper use of facilities, for demonstration and participation in educational practice. One of the members of the ten-year group said: "I had theory morning, noon, and night; a great deal of it I have since found very helpful; but I had to spend several years experimenting before I found out how to apply it. Some of it, I have never been able to apply. Of one thing I am certain: if much of the time that was used in talking *about* teaching had been given to *practical demonstrations of how to teach,* I should have been much better prepared for my first job." Too often, however, one is forced to conclude that the complaints of the more recent graduates really mean that they desired more specifics. A sample quotation from this group will illustrate the point. "If one-half of the time that was devoted to generalities in teaching had been devoted to showing me how to teach fractions or the parts of speech, I should have been saved many a trying ordeal." Now, while most teachers agree that a certain measure of specifics should be provided, just how much of that kind of work can be given and not make the teaching process mechanical is a matter that teachers apparently have not been able to agree on. I should say that, heretofore, normal-school teachers have been rather inclined to give too much of this kind of work. I am inclined not to take too seriously those criticisms that have to do with the theoretical part of normal-school training. I know that the temptation to theorize is one that comes often to the teacher; but I believe the teacher who objects to theorizing would perhaps make a much greater success in a Ford factory than in a school room. It is so easy for those who are too stupid to find a way or too lazy to make the effort necessary to apply a new doctrine, to take the smug and easy way out of their difficulty by saying that the thing is "impractical." That word has always been a cloak for stupidity and pretension in more things than teaching. No doubt normal-school teachers have sometimes been carried off their feet by theories that seemed to offer a solution to that most difficult of problems, teaching. The many discarded fads that are to be found along the pedagogical highway bear eloquent testimony on this point; but I wonder if this does not call attention to one of the great needs of the normal schools,—namely, a school of research and experimentation where theories may be tested before they are given out. On the other hand, I wonder if all of those discarded fads are the work of the normal-school teacher's hand. We all know what happens when a new idea takes possession of an uninformed mind.

Another defect of normal-school training that was almost universally mentioned was the *lack of proper practice teaching.* The graduates of ten years ago had little or none. Some of them spoke of having been required to take charge of classes of which they were members and conduct the recitation. Graduates of more recent years seem to have fared a little better in this respect; though they, with few exceptions, spoke of their practice teaching as a *farce.* The training was given in very light, broken doses; sometimes it was administered collectively. Usually the supervision was poor; and in a few instances, it was under the supervision of teachers who admittedly had little sympathy with teacher-training. Some of those whom I questioned said that what there was of it was better than none. I shall not attempt to offer any justification of the normal schools in this. It must be admitted that many of them have not made the most of even the very limited facilities for this work that they have had at their command. Still I cannot help thinking that the almost universal complaint against the normal schools in this respect is due to a misunderstanding of what should be expected as a result of the work in the training school. It is merely intended to overcome as many of the handicaps of inexperience as time and facilities permit.

Another criticism often made was that the normal schools devote too much time to *how* to teach and not enough to *what* to teach. I could not detect significant group differences in this criticism. The members of the ten-year and five-year groups most often complained of the narrow background of the work that was given them. Often the criticism assumed the form of a charge of superficial character in the work attempted. Nearly always it was attributed to an attempt to crowd into the course of study too many subjects in too limited a time, overlapping, and repeating. Comments by two members of this group illustrate what I mean. One student said: "Before I began to teach, I could have told anyone exactly how to teach almost any subject in the grades; but when I began to teach history in the seventh grade, I found that the amount of history known to me and suitable for the seventh grade was woefully inadequate to meet the demands. I had to spend the next few summers in the university trying to learn enough history to give me a reserve fund for the work I had to do." Another comment was: "I had to spend so much time on review work and my professional work that I had little time for advanced academic work. Everything was rushed and all of it was more or less slighted. At least half of the time could have been saved for advanced academic work *if a great deal of unnecessary review work had been omitted and the proper relation of subject-matter and method had been observed.*" The members of the one-year group did not seem to object so much to the review work. One of them said, "I had such a good time in high school that I should never have been able to teach the things I have to teach if I had not been given that grilling in them in normal school." Repeating and overlapping, however, figure strongly in the complaints. One student said, "I had exactly the same work in parts of two history courses and one English course." I asked her if it might not have been that she was getting three different points of view of the material. She admitted that was true but said: "I am not objecting to being required to get different points of view. What I do object to is the amount of time I was required to spend in getting them. Each teacher seemed to think that the material was new to me and required an amount of time entirely out of proportion to the needs in the case." Undoubtedly the work of different departments is not always carefully correlated and even the work in the different parts of one department is often not so well organized as to avoid overlappings.

Another criticism of normal-school training was the lack of differentiation to meet the needs of the different grades of the elementary school. The reports of graduates of ten years ago show very clearly that there had been little differentiation in the work of teacher-training up to that time. All students were put "through the same mill" regardless of what they were to teach. They speak of some efforts at differentiation in the work of the primary department; but this was merely the general formula with a few frills added. There was also some work in agriculture; but it, too, was of a very general nature. Some few of these graduates spoke of courses in industrial arts, but I could find no evidence that this work was not of the most general kind. The reports of the graduates of five years and one year show just about the same conditions. From a careful examination of normal school catalogues, I find a fairly well recognized effort at differentiation for kindergarten teachers, primary teachers, high-school teachers, teachers of special subjects, rural-school teachers. There is nothing to indicate that this is not the same old general formula with a few frills added for the "looks of the thing"; and from the numerous complaints, I am inclined to believe that there is little real differentiation in most cases.

A high degree of rigidity in standardization is indicated by the reports of all groups. One student said: "There was a prescribed form of writing a lesson plan and we had to follow it exactly. The teachers were extremely critical and the plans often had to be re-written; always this happened if the plan did not fit the mold." One girl of the one-year group said, "I never can decide just how much I should tell my pupils and how much I should make them find out for themselves." Nearly every report mentioned the *dogmatic attitude* of normal-school teachers; and most of us know that dogmatism and standardization are likely to run hand-in-hand. Many times in my investigation I heard this statement: "One of my instructors told us one thing and another one came right along and contradicted everything the first one said on that subject. I did not know which one to believe." Such a comment always indicates a type of mind that is not accustomed to doing independent thinking; but it also indicates that there are teachers who still cling to the "divine rights" theory.

It is quite generally believed that the teaching profession has a monopoly of dogmatism; but my experience with men of other professions, business men, and even men and women of no profession has led me to the conclusion that dogmatism is a matter of the individual. Possibly contact with immature minds has caused those teachers who are naturally dogmatic to become even more so; but to accuse all teachers of dogmatism is to fall into the error that usually goes with sweeping statements. My experience with normal-school teachers has led me to conclude that they are usually very much inclined to look at a thing from many points of view. So generally has this been my experience that the few really dogmatic individuals stand out in strong contrast; and I believe that is what has happened in most of the cases of criticism I have heard. The student has so vivid a recollection of his dogmatic teachers that he forgets the many modest, unassuming men and women whose experiences in trying to solve the difficult problem of education have made them realize what uncertain ground they are treading on.

A summary of the different points of criticism shows that the outstanding points of weakness in normal-school training are: (*a*) teaching the principles of education too abstractly, an error due to the lack of proper facilities or the improper use of facilities for *demonstration and participation in educational practice at its best, and to the failure to make the training school the center of the work;* (*b*) giving courses in a superficial manner, the result of short time or narrow view or both; (*c*) devoting relatively too much time to *how* to teach and not enough time to *what* to teach; (*d*) a failure to make such differentiations in the work as will prepare the teacher to teach expertly well in some one field; (*e*) a tendency to emphasize the form and the letter to the neglect of the substance and the spirit.

Educational Administration and Supervision

Including Teacher Training

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VOLUME VII — FEBRUARY, 1921 — NUMBER 2

COMMUNICATIONS AND DISCUSSIONS

THE OFFICE OF HELPING TEACHER IN NEW JERSEY.

Miss Maud C. Newbury, helping teacher in Hunterdon County, at the request of the United States Commissioner of Education prepared a statement in regard to the helping teacher in New Jersey. This statement follows.

Four years ago only those adults under contract to do so entered the rural schools of Hunterdon County. Today the rural schools are fast becoming centers of community interest. During the same week various activities may be taking place. The adults in one rural community may be enjoying an Americanization program arranged by a local committee; a second rural school is the scene of a dance; in a third the grown-ups are giving a play to earn money for a school piano; a fourth community is enjoying pictures from the state museum projected by the school stereopticon; a fifth community is witnessing an evening demonstration of teaching so that the fathers may see that the modern school isn't all fads and fol-de-rols; a sixth is enjoying a spelling bee for grown-ups or playing kid games; a seventh group has borrowed from the county superintendent's office the county school moving picture machine and everyone is enjoying movies in the little red schoolhouse.

Parents and other adults to the number of three thousand attended the first county rural school festival held in June, 1920. The same crowds attended thirteen local township festivals for two years. They witnessed with interest the contests in spelling, arithmetic, four minute speaking, and athletics and entered automobile parades in an attempt to win the money prize offered toward purchasing a school library. They swelled with pride over honors won by their local schools and talked about it for weeks afterward.

Twenty-five parent-teacher associations organized during the period 1916 to 1920 have placed in the thirty-five rural schools of South Hunterdon twenty-eight phonographs, five pianos, sixteen blue flame oil stoves with accompanying equipment for serving hot lunches, forty-five subscriptions to good current literature such as Youth's Companion, St. Nicholas, National Geographic, and much other equipment that makes for the enrichment of the country school. During the past year these organizations raised more than $1750 for such purposes, and were responsible for holding 180 afternoon and 95 evening community meetings.

Nearby towns no longer attract our teachers. Changes in personnel in 1916-17 represented 65 per cent. of the 42 teachers in the southern end of Hunterdon County. Changes in 1919-20 had dropped to 18 per cent. of the group. Salaries paid to Hunterdon teachers now represent average increases of 140 per cent. on those paid in 1916-17. Teachers receiving $410 in one-room schools in 1916-17 receive $1000 today. Those receiving $500 in 1916-17 in one-room schools receive $1200 or $1300 today. Boards of education are not only paying fairly liberal salaries, but they are responsive to requests for basic and supplementary texts, and are liberal in providing seat work materials. Many town schools are today not nearly so well supplied with books and seat work material as are our rural schools.

Needless to say, the Hunterdon County teachers have grown during the past four years in leadership, in teaching skill, in devotion to the rural school problem. Fifty per cent. of the South Hunterdon group attended the Saturday Extension School at Flemington, organized and taught by the County Superintendent, local supervisors, and helping teachers. All teachers are emphasizing more and more the formation of those habits which make for right living or good citizenship by organizing health and other clubs; by encouraging pupil leadership in morning exercises, in class discussion, in games and gymnastic drill; by using problems closely related to the children's lives rather than books as guides in teaching; by teaching children to read good books and good current literature; by encouraging them to prepare dramatizations of reading and history for the entertainment of others in community meetings; by leading children to cook and serve lunch to others and to help serve refreshments to their parents; by encouraging pupils to join the Junior Red Cross, invest in thrift stamps and respond enthusiastically to Uncle Sam's calls for help. Almost without exception the teachers show a fine spirit of co-operation. For three years each township group has elected a representative to meet once each month with the county superintendent and two helping teachers to assist them in shaping policies, and to co-operate with them in putting across policies determined upon. What this group, "The Hunterdon County Rural School Council," has agreed upon the whole group of teachers has carried out cheerfully.

How have the changes indicated been brought about? The county superintendent and helping teachers have nothing to do with the appointment of teachers in Hunterdon County. They are appointed by township boards of education. But we have power to create conditions which will serve to train and hold in the rural schools the type of teacher capable of winning enthusiastic community support. With this power we have endeavored to bring about the following conditions:

First, a democratic type of supervision. We enter schoolrooms as helpers, not as directors. The teachers, through the organization of the Rural School Council, are invited to help us.

Second, a change in the status of the teacher in the community. By organizing parent-teacher associations, by emphasizing the teacher's value to the community and her need of support we have helped to move the teacher from the outer fringe to the center of the social group. A teacher who occupies a position of leadership in a rural community is not eager to change.

Third, opportunities for professional growth and contact with other teachers whose problems are similar. Demonstration teaching by the helping teacher followed by discussion of the good and weak points, all day demonstration teachers meetings twice each year and all day meetings more frequently, extension courses on alternate Saturdays, problems in teaching outlined during blizzard periods by the helping teacher, all have provided opportunities for professional growth.

Fourth, a type of organization and management that simplifies the task of the one-room school teacher. By combining classes, having class periods in most subjects but three times each week, and alternating the teaching of subject matter by years, we have decreased the number of teaching periods almost 50 per cent, and have lengthened teaching periods so that the shortest period is 15 minutes, while the longest may be 40 or at least 30 minutes.

Fifth, an increase in salaries that takes into account not only the increased cost of living, but also the fact that Hunterdon County teachers are worth more than they were four years ago, and that some are worth more than others. By helping to make teachers worth more and by advertising their worth on every occasion, we have helped to boost salary increases.

Sixth, a very liberal increase in the number of books and the amount of materials supplied. Five township boards now buy all that the teachers ask for. We have led boards of education, committees, and in many cases teachers, to appreciate the need for spending much more money for books and supplies.

Seventh, a suitable boarding place. We have taken girls to the communities in which they were to teach and have secured boarding places for them.

THE BELL-LANCASTER SYSTEM IN THE EARLY SCHOOLS OF BALTIMORE

FLORENCE M. LAYMAN,
Baltimore Teachers Training School.

In 1826, the Maryland state legislature passed laws permitting the mayor and city council of Baltimore to establish, regulate, and support public schools. In 1827, the mayor and council accepted the responsibility for the conduct of the public schools of Baltimore. In 1828, the council appointed a board of school commissioners composed of mayor, *ex-officio,* and one member from each of the six districts. The tenure of office was one year. The city council directed this board to establish a school of two departments on the monitorial plan. In 1829, the first schools were opened,—four in number,—"One for each sex in the eastern, and the same number in the western section of the city."

In the advertising columns of *The American and Commercial Daily Advertiser,* September 24, 1829, the following advertisement appears:—

> "Public Schools: Notice is hereby given that Public Schools will be opened at No. 94 Bond St., Fells Point, on Monday next, the 28th inst., where male and female children under 12 years of age will be received and instructed on the Monitorial plan at Four Dollars per annum. For further information apply at the school rooms to Thompson Randolph who is appointed a Teacher of the Male Department or to Miss Harriet D. Randolph who is appointed Teacher of the Female Department of said school.
>
> "By order Jacob Small, Chairman."

No. 94 Bond Street was near Canton Avenue, and here Mr. Randolph conducted a school of 120 boys "crowded into a space hardly sufficient for fifty." Miss Randolph had "an interesting little school of thirty-four female pupils" and the commissioners were much impressed both with the dignified department of the instructress and with "the clear and perspicuous manner in which instruction was imparted." These two schools were designated "Male School No. 2" and "Female School No. 1."

As these rooms in a private house were very unsatisfactory for all school purposes, an attempt was made to find better quarters.

Male School No. 2 was located over an engine house, and Female School No. 1, over a watch house on Fell's Point. In 1834, a new school building, known as Male and Female School No. 2, was built on the corner of Market and Bank streets.

All of these schools were conducted on the monitorial plan, and the first schools were built for teaching according to this system.

In the Third Annual Report of the Commissioners of Public Schools for the year 1831, the following description of a room arranged for monitorial teaching is given. The accurate description and concrete detail strongly indicate that this is a true description of the newly completed School No. 3.

> "The internal arrangement of the rooms (we speak of those constructed for the purpose) is perfectly uniform and regular. The floor is an inclined plane, rising about 4 feet in its whole extent, as it recedes from the master's desk: the master's desk is upon an elevated platform standing at the lower end of the room in a space of 12 or 14 feet in length, where also, are two smaller desks, occupied by the monitors general. There are two ranges of desks and seats receding from this space, at which the scholars sit, with their faces toward the master, so that, with the rise of the floor and his own elevation, he can command a full view of any scholar in the room. There is a narrow passage, or middle aisle between the two ranges of desks to facilitate the communication with them, and a wider passage or aisle on either side. There are 20 desks in each range; the seats are single detached and separated so as to prevent the boys from pressing upon and incommoding each other, and that they may disengage themselves more readily when drawn out in the aisles. Each of the 40 desks accommodates 9 boys and there is a single desk somewhat raised attached to the end of and placed athwart the longer desk at which the monitor of the class sits; so that the whole school is divided into two battalions of 20 decades each besides the 2 monitors of order or monitors general. The monitors' desks have a falling lid and a compartment underneath sufficiently large to hold the reading and copy books, the pencils and other utensils of the class, except the slates, when not in use."
>
> It was the duty of the monitors "to admonish the boys," to help in the transition period, and to collect and distribute material. The teaching of the monitors is described as follows:—"This duty (teaching) consists of reading the reading lesson to the class as it stands in a circle around him in the aisle; in hearing the boys read it in their turn, and in correcting them when they read amiss,—in propounding questions in mental arithmetic according to Pestalozzi's method, and seeing that the answers given by the boys correspond to the answers in the book. For these duties he is prepared by previous instruction from the master himself when it is necessary, and it cannot be doubted that these duties are as profitable to the monitor as to the class."

Mr. Coffin, whose work in the Eutaw street school was highly satisfactory to the school commissioners, was made master of this new school No. 3, and here taught with much success, from 200 to 300 boys. He describes his method in a report submitted to the commissioners and published in their annual report.

"As regards the plan of teaching, which has been pursued, that of no individual has been implicitly followed; but I have endeavored to profit by the experience and opinions of others, avoiding what I conceived to be useless, or not adapted to further the advancement of my pupils.

"The plan is monitorial, but I by no means depend upon the monitors to teach what they themselves do not understand. Their principal business is to preserve order and to hear the tasks that have been committed to memory.

"This arrangement relieves me from a great part of the usual drudgery attendant on the common mode of teaching, and gives me time not only to examine the classes, but to communicate the instructions in the higher branches, which could not, with propriety, be committed to monitors.

"It is also my practice to impart instruction, and give explanations to the whole school at once.

"This is denominated simultaneous instruction. I will give a few examples to illustrate my meaning. I propose a sum in Arithmetic—say in Addition. I put down the figures and make the scholars add up the sum together, and tell what figures must be put down as the amount and the reasons why they are thus put down. In a like manner I proceed with sums in the other rules in Arithmetic.

"In English Grammar they are made to repeat the definition of the parts of speech and rehearse what had been previously learned and recited to the monitors.

"Familar illustrations are also given and easy sentences proposed to be parsed and explained. The same course is pursued with respect to Geography. Simultaneous spelling and defining also, makes a part of every day's exercise. In this respect my plan differs from that of all others; for in all of the schools when simultaneous exercises have been adopted, attention is paid merely to the spelling of the words, a practice which falls far short of the object which should be had in view, especially as to the orthography and definition can be learned, so as to be remembered much quicker than the orthography alone; and I hope that the time will soon arrive, when a mere spelling book will not be sanctioned by an intelligent public.

"In place therefore, of cards, and a spelling-book, I have made use of Hazen's Symbolical Primer and Speller, and Definer, in which the meaning of every word is explained. In the Primer the first 500 words are explained by symbol or picture. By the use of this little book, and by the aid of monitors several boys have learned to read tolerably well in less than three months; besides learning to spell and define nearly 700 words in the Speller and Definer.

"According to the present arrangement of the Public Schools on the monitorial plan, the attention of the teacher is too much divided, there being too many studies going on at the same time."

Mr. Coffin proceeds to suggest schools of "two grades" which he denominated Primary and High Schools.

An interesting glimpse of the course of study used in the girls' schools is contained in the following report submitted by Miss Randolph, teacher of Female School No. 1.

"The school is divided into six classes. The first class is learning the alphabet and spelling, the second class spell and begin to read; the third class spell and read; the fourth and fifth classes read, define words, and write on slates; the sixth class read, write on paper, cypher and study grammar."

Miss Miles succeeded Miss Randolph as mistress of Female School No. 1. Her school was located over a watch house. In a report submitted to the School Board, she thus describes her method of teaching:

> "I write a simple sentence on the board, the children tell me of how many words it is composed; they next spell it and tell me the syllables, then the letters, which letters are vowels and which consonants, and afterwards tell me the parts of speech and give me definitions as far as they are able. A similar course is pursued in geography and arithmetic, and their improvement in these branches is very perceptible and gives universal satisfaction."

BOOK REVIEWS

The Fundamental Principles of Learning and Study. A. S. Edwards. 1920. Baltimore: Warwick & York, Inc. Pp. 1-239.

This book deserves its title. The author's professed aim, "to show how the results of general psychology and experimental psychology and of allied sciences can be put into use by the teacher and the student in the problem of learning and of study," is pretty well realized.

The whole book is based on habit. Education is a matter of forming habits socially desirable. The mechanism of the learning process is presented with considerable force in Chapter four entitled *"Learning and Habit Formation."* This chapter, together with chapters on *Progress and Improvability, Arrests in Learning* and the *Limits of Improvability, Transfer of Acquisitions, General Improvement, Memories and Permanence of Acquisition,* cover the fields suggested by these titles far more thoroughl y and effectually than is done by any other writer. Although all chapters of this book are meaty and chock full of materials worth while these chapters are especially good.

The writer wishes that the text might have begun with Chapter four. Indeed, he has his classes begin with this chapter and follow in about the order of the chapters named above. Other chapters that "get across" particularly well with students just graduated from high school are: *Making the Appeal to the Student, Feeling Habits and Moral Education, The Directing of Learning and Study, Supervised Study and the School Curriculum.* The chapter entitled *Definiteness in Aim and Method* ends the book.

Among commendable features of "The Fundamental Principles in Learning and Study" are its conciseness and clear, simple presentation. The writer knows of no other book with so much good meat so well prepared in so small a vessel and which still tastes so good to the untrained and scientific mind alike. Edwards' book is, moreover, thoroughly scientific and the author is very modest, although unwavering in his claims for psychology.

This is a text well suited to normal schools, provided the teacher knows how to help the learner fill in at almost every step concrete instances. With the exception of a few chapters the work is so concise that the novice in psychology may be temporarily overwhelmed with facts and principles unless he learns to supply illustrations, which to do, of course, is indispensable to all effectual learning. Just because of its conciseness this book furnishes a fine summary on learning for the graduate student. It contains about all the material the writer would want to give as a semester's course to college students and most that he would wish to give to students of a two years normal course. The writer believes that for the average professor of psychology carefully to study this book would help make the college course in psychology really function.

Although Edwards' text is dated 1920 it does not cover nearly all the leading literature on learning of the three previou syears. It is to be hoped that in the near future the author will enlarge his book and, in doing so, rearrange some of his chapters so as better to take account of the ease and interest of the learner.

The shortcomings of this text are few in comparison with its virtues. The writer must confess a strong enthusiasm for this book, which has been reinforced by a like enthusiasm of many of his students. GARRY C. MYERS.

Cleveland School of Education.

The Classroom Teacher At Work in American Schools. George Drayton Strayer and N. L. Engelhardt. 400 pages. New York: American Book Co.

The Classroom Teacher by Doctors Strayer and Engelhardt spreads before the student at once the scope of public school service and supplies detailed analysis in an organized form. The book carries an appeal to every phase of public school service from end to end. This should do much to convince students that education is emerging from routine and tradition into a profession. The book, if taken into the field laboratories—the schools—and regarded as a laboratory manual, will enable growing, open minds to enter upon a voyage of discovery and exploration that will convert a deal of tedium into fascinating research and experimentation.

Countless thousands of teachers are working diligently but blindly seeking to uplift by the bootstrap device. This book is a guide to intelligent application and to those who have felt there are no ways and means at hand to attend a School of Education it will prove a stimulating incentive to advance and prepare the way for advancement.

Experience is commonly offered as a chief asset in applying for positions or in seeking promotion. Experience is a variable quantity. If experience represents a task performed in repetition year after year, it means little. If experience represents careful analysis of work, if it represents study and examination of methods of others, if it represents changed habits of work or improved processes of thinking, if it represents better results, experience counts for much.

The Classroom Teacher makes the second type of teaching not only possible but probable. To escape a narrowed viewpoint and ingrown mental processes, there is but one source of relief—the study of useful books or association with individuals having active minds. The directions in this book, suggesting ready and accurate means for measuring the success of students' achievements, indirectly set standards for class room instruction and stimulate to study the aims in education and cause the teacher to set up a curriculum to meet the needs of modern life. This book carries a much wider range of material than the title suggests.

In learning definitely the inherent qualities of proper instruction, the way is paved for learning to judge the quality of instruction offered by others. This is the stepping stone to leadership—supervisory and administrative.

How frequently teachers grow restive while working in small positions! What a grave mistake! In such laboratories, where the responsibilities are light, the greatest possible opportunities are present for experimental work. Aside from the natural devotion which every one owes to his work, the purely selfish motive alone should spur one to search for just such a book as this to promote the advancement of children and, incidentally but ultimately and most directly, will it insure its own growth and recognition. *The Classroom Teacher* is neither a duty nor a luxury; it is a simon pure investment and necessity, because it will bear compound interest if studied and applied. R. G. Jones.

Cleveland, Ohio.

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

Including Teacher Training

THE USE OF A TIME-RECORD BLANK IN THE STANDARDIZATION AND SUPERVISION OF STUDENT-TEACHING COURSES.

WILLIAM S. GRAY,
University of Chicago.

Purpose: The reports which have been made to this association during recent years show clearly that student-teaching courses differ widely in content and method. Although there has been an insistent demand for the standardization of such courses and for more effective supervision of student teaching, little progress has been made along these lines. One explanation lies in the fact that few plans have been organized for securing accurate, detailed information concerning the activities of student teachers.

With these facts clearly in mind an attempt has been made to organize a plan for making systematic studies of student teaching. The specific device which has been organized is known as a Time-Record Blank. Its essential characteristic is the fact that it directs attention to the amount of time given to each and every activity in a student-teaching course. This is only one of many equally objective sources of information.

Description of the Time-Record Blank: The time-record blank has been organized primarily as a convenient means of enabling student-teachers to keep accurate records of the amount of time given to each of their activities. Space is provided for the number of minutes spent each day in twelve common activities, such as observation, preparation of lesson plans, class teaching and individual conferences with supervisors. The letters at the top of the vertical columns refer to the different activities. The key appears at the bottom of the sheet. Blank spaces are provided for activities which are not listed on the sheet in its present form.

TIME-RECORD OF STUDENT-TEACHER

Read carefully the directions on the opposite side of this sheet

Name.................................. Subject..................................

Supervising Teacher..................................

Date	Days	O	T	I	L	S	P	Q	E	C	G	R	M			Total	
																Hrs.	Min.
	M																
	Tu																
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Total in Min.																	
Total for	Hrs.																
Five Weeks	Min.																

Key

O—Observation
T—Class Teaching
I—Teaching individual pupils
L—Assisting in laboratory.
S—Supervising study of pupils
P—Preparation of lesson plans
Q—Preparation of subject-matter taught by Supervisor
E—Grading papers
C—Individual conference with Supervisor
G—Group conference with Supervisor
R—Assigned Professional Reading
M—Miscellaneous

The total amount of time given to student teaching each day can be summarized in the right-hand column of the table. The amount of time given to each activity during a given week can be summarized at the bottom of the section of the table for that week. The total amount of time given to each activity during five weeks can be summarized at the bottom of the table.

Directions for Keeping a Time-Record of Student Teaching: The directions for keeping a time record of student-teaching activities follow:

1. Each time you work on any phase of your student-teaching course, note the time in minutes. If you do three or four different things during a given day, keep an exact time-record of each. *Two cautions:* (1) Keep your record accurate and neat. (2) Be sure to include every type of activity which is part of your student-teaching course.

2. Record the date in the left-hand column of the table and insert the number or numbers of minutes in the appropriate blank or blanks. In case the table does not contain a column for each activity which you undertake, make the entry in one of the blank columns to the right. Put a letter at the head of the column and describe the activity on a line in the Key. Include under "M" only those miscellaneous tasks which recur very infrequently.

3. At the end of each day add together the number of minutes which appear in the record for that date and express the sum in the right-hand column of the table in terms of hours and minutes.

4. At the end of each week add together the number of minutes which appear in each column and express the sum in terms of minutes in the horizontal column of totals for that week.

5. At the end of five weeks add together the number of minutes which appear in the various totals in each column. Record the sum in terms of hours and minutes in the appropriate blanks at the foot of the table.

6. It is important that the time-record be kept for at least ten weeks during a quarter. Beginning with the sixth week entries should be made on a second record blank.

Uses of a Time-Record Blank: The data which are secured through the use of this blank can be used in making the following significant studies. (a) A complete list of activities of student-teachers in various institutions can be secured, analyzed and classified. (b) The relative importance of these activities can be determined and standard practices established as a basis for constructive criticism of a given situation. (c) The relative importance of various activities at different periods during a course can be studied. For illustration, how does the amount of time given to observation and class teaching at the beginning of a course compare with the amount of time given to these activities during the middle of the course or near the end? (d) Studies can be made of the amount and character of the work of each student-teacher. These facts can be used in the expert direction of his activities. (e) The entries in the time-record blanks enable a supervisor in a given institution to make careful detailed studies of the different student-teaching courses under his supervision.

Three investigations which have been made will be described in this report. The first relates to a study of current practices in eleven institutions; the second, to a study of the practices in the various departments of a given institution; the third, to the use which a supervisor made of the blank in improving student-teaching under his supervision.

Current Practices in Student-Teaching Courses: In order to determine current practices in student-teaching courses, blanks were sent in the Autumn of 1919 to eighty institutions in various parts of the country with the request that time records be kept by student teachers for ten weeks. Because student-teaching courses were reorganized slowly following the war, returns were received from only eleven institutions. These records were summarized in terms of the average amount of time given by the students in each institution to the course as a whole and to each activity. Inasmuch as the amount of credit given for ten weeks of student-teaching differ widely, it was necessary to express the averages referred to above on a percentage basis.

Table I contains the percentages of time given by 119 student teachers in eleven colleges and universities to twelve activities. The letters in the left-hand column represent the eleven schools. The letters at the top of the vertical columns refer to the activities. The entries in the tables are the percentages of time given in each institution to the various activities. The two right-hand columns contain the average number of hours per week reported by the students of each institution and the number of semester hours of credit given by each institution for a semester, or 18 weeks, of teaching. The highest, lowest, and average percentage of time for each activity appears at the foot of the table.

Important Facts Revealed by Table I: Table I shows clearly that institutions differ widely in the number of hours of work required in student-teaching courses for a unit of credit. The amounts of time required by Schools G, H, and I illustrate this point clearly. It is recognized that different conditions in various institutions should result in differences in the amount of time required for a unit of credit. Nevertheless, wide variations can be attributed largely to inadequate information, either on the part of supervisors or on the part of those who determine the amount of credit which should be

TABLE I

Percentages of Time Given by 119 Student Teachers To Twelve Activities in Eleven Colleges and Universities

School	Activities												Average time per week		Credit per semester
	O	T	I	L	S	P	Q	E	C	G	R	M	hrs.	min.	
A	12.0	29.3	1.2	1.2	5.2	28.9	3.1	7.1	3.4	5.5	1.9	1.2	5	25	?
B	6.8	35.4	7.1	.9	3.2	20.6	1.3	11.6	4.3	6.2	....	2.6	11	30	3-6
C	6.8	25.5	.9	2.3	1.4	43.2	5.3	5.1	4.5	.7	1.9	2.4	9	32	2-5
D	1.6	31.0	4.9	2.0	.4	37.7	1.2	12.5	2.3	1.6	2.5	2.3	11	34	4
E	3.1	21.9	4.3	3.2	5.4	25.0	6.7	14.0	2.9	6.6	5.2	1.7	10	52	4
F	4.8	12.6	2.8	7.0	.4	22.0	1.2	.4	4.6	14.6	24.0	5.6	8	20	2
G	3.1	38.8	1.4	1.7	....	30.1	15.6	7.5	.2	.2	.9	.5	9	42	4
H	53.8	3.2	....	....	....	7.6	11.7	....	22.2	....	1.5	....	5	42	3
I	6.8	19.2	2.7	....	.3	27.9	4.5	22.7	3.7	....	11.7	.5	13	0	2
J	3.4	21.3	1.6	....	.4	40.3	9.5	11.9	3.2	2.6	2.6	3.2	8	23	2-5
K	5.2	34.0	1.6	2.5	5.7	29.4	.3	10.6	1.8	3.1	3.6	2.2	12	12	4
Highest	53.8	38.8	7.1	7.0	5.7	43.2	15.6	22.7	22.2	14.6	24.0	5.6	13	0	
Weighted av.	5.8	26.0	3.1	2.4	2.7	28.4	3.9	10.1	3.4	5.0	6.8	2.4	9	45	
Lowest	1.6	3.2	.0	.0	.0	7.6	.3	.0	.2	.0	.0	.0	5	25	

O—Observation
T—Class Teaching
I —Teaching Individual Pupils
L—Assisting in laboratory
S —Supervising study of pupils
P—Preparation of lesson plans
Q—Preparation of subject-matter taught by Supervisor
E—Grading papers
C—Individual conference with Supervisor
G—Group conference with Supervisor
R—Assigned Professional Reading
M—Miscellaneous

given. Additional facts supporting this conclusion will be cited later.

In the second place, Table I shows clearly that institutions differ widely in their views of the purpose and content of student-teaching courses. School H devotes 53.8 per cent of the time to observation and only 3.2 per cent to classroom teaching. School B, on the other hand, gives only 6.8 per cent of the time to observation and 35.4 per cent to teaching. School F devotes approximately one-fourth of the time to professional reading, which is 32 per cent more than the amount of time given to both observation and classroom teaching. It is apparent that student teaching refers primarily to observation, classroom teaching, and professional reading, respectively, in the three schools.

In the third place, Table I shows very wide variation in emphasis on particular activities. For illustration, the percentage of time given to observation varies from 53.8 to 1.6 with an average of 5.8; class teaching varies from 38.8 to 3.2 with an average of 26; grading papers varies from 22.7 to 0 with an average of 10.1. Other very wide variations appear in the table. In some cases a given activity, such as professional reading or grading papers, is emphasized to a surprising extent; in other cases an important activity, such as class teaching or conferences with supervisors, is given little emphasis.

It is evident that there is need of standards which institutions may use in detailed constructive studies of their practice. It has been impossible to establish thoroughly reliable standards in this investigation on account of the limited number of institutions from which reports were received. Until more extensive investigations have been made, the weighted averages which appear at the bottom of Table I may be used to advantage. On the basis of these averages the varoius student-teaching activities may be ranked as follows:

Preparation of lesson plans	28.4	percent
Class Teaching	26.	"
Grading papers	10.1	"
Assigned professional reading	6.8	"
Observation	5.8	"
Group conferences with supervisor	5.0	"
Preparation of subject-matter taught by supervisor	3.9	"
Individual conferences with supervisor	3.4	"
Teaching individual pupils	3.1	"
Supervising study of pupils	2.7	"
Assisting in laboratory	2.4	"
Miscellaneous	2.4	"

One may well be critical of the importance which is attached to some of the activities included in Table I. Personally I question the advisability of giving a large amount of emphasis in student-teaching courses to professional readings and the routine grading of papers. On the other hand, the average amount of time given to group and individual conferences in eleven institutions is inadequate in my judgment. Be that as it may, if a given institution finds on investigation that it departs widely from the typical practice of a number of institutions, it should either justify its procedure or modify it along lines suggested by the comparison. The significant fact emphasized by this investigation is the need of detailed studies by each institution of its student-teaching courses. The time-record blank suggests one important approach to the problem. As a result of numerous constructive studies it may be possible to define valid standards and to point out desirable tendencies with definiteness and assurance.

Study of Practices in Different Departments: The second study which is described in this report is an investigation carried on by a supervisor to determine the distribution of time in student-teaching courses in the various dpeartments under his supervision. In order to secure the data necessary for this study, all the student teachers in each department were asked to keep a time-record of their activities for a period of twelve weeks. These data were summarizd in terms of the average number of hours given in each department during twelve weeks to the various activities. These results are recorded in Table II.

The letters in the left-hand columns of the table represent nine departments which provided student teaching opportunities. The letters at the top of the vertical columns represent the various activities. The numbers in the right-hand column of the table represent the average number of hours required by each department during twelve weeks. The numbers at the bottom of the table represent the average amount of time given to each activity.

The table reveals at least three facts of significance to a supervisor. In the first place, the total amount of time required by the various departments differed widely. If the time required by Department C justified a university credit, the time required by Department G should have entitled the student to approximately two university credits. As a matter of fact the students received the same amount

TABLE II

Number of Hours Given to Various Student-Teaching Activities in Each of Nine Departments

Dept.	Activities														Total hours
	O	T	I	L	S	P	Q	E	C	G	R	M	W	X	
A	30.4	12.1	....	4.7	.7	54.9	8.7	2.2	12.8	6.7	....	9.2	10.5	....	152.9
B	45.3	9.9	....	....	5.9	15.	3.3	....	4.5	12.7	....	21.5	.3	4.	122.4
C	27.	16.	....	.5	4.9	22.2	2.6	14.1	6.	....	....	6.1	3.	....	102.4
D	38.3	18.7	....	....	....	59.3	....	....	3.2	8.3	....	....	....	....	127.8
E	39.6	17.5	....	....	....	49.0	.4	.1	13.3	9.1	....	14.4	4.8	....	148.2
F	28.1	5.2	....	6.9	.4	24.5	....	.5	5.2	12.9	....	25.9	9.9	....	119.5
G	103.2	47.6	....	....	....	9.9	6.3	....	2.9	9.9	9.8	1.4	....	....	191.0
H	60.7	34.2	....	....	13.7	8.	....	.5	6.1	9.3	28.1	....	....	....	160.6
I	39.9	17.5	....	.3	1.6	36.9	1.6	2.7	6.7	5.7	....	9.9	.3	2.8	125.9
Weighted av.	38.9	14.7	....	1.9	2.1	31.8	1.9	2.2	7.3	8.7	1.	14.6	4.	1.2	130.3

O—Observation
T—Class Teaching
I—Teaching individual pupils
L—Assisting in laboratory
S—Supervising study of pupils
P—Preparation of lesson plans
Q—Preparation of subject-matter taught by Supervisor
E—Grading papers
C—Individual conference with Supervisor
G—Group conference with Supervisor
R—Assigned Professional Reading
M—Miscellaneous
W—Reports on lessons observed
X—Term paper

of credit. In the institution in which this study was made, a course which entitles the student to a unit of credit requires, theoretically, one hundred forty-four hours. Before the investigation began, each department stated that in its judgment the student-teaching course as administered conformed to this standard very closely. When the results were tabulated there were some interesting surprises. During the next three quarters, time records were kept systematically from week to week. By the end of the year the amount of time required by each department closely approximated the theoretical standard. No unwillingness was evidenced on the part of departments to readjust their procedures. The explanation for wide variations during the first part of the year was found in the fact that the departments had never made detailed analytical studies of their practices and had no convenient means of securing accurate data in regard to these points.

The second fact of importance revealed by Table II relates to the wide variation in the amount of time given to various activities by the departments. For illustration, Department C required 27 hours of observation and Department G required 103.2 hours; Department F required 5.2 hours of teaching and Department G required 47.6 hours; Department H required 8 hours for the preparation of lesson plans and Department D required 59.3 hours. In the conferences which were held concerning these differences, few attempts were made to justify extreme practices. Surprise was expressed very frequently by members of given departments that so much or so little time had been required for certain activities. During the course of the year the variation in practice was greatly reduced. Wherever significant differences were still in evidence, departments were able to justify their practices on perfectly valid grounds.

The important point which merits emphasis in connection with this investigation is the fact that there is need of continuous systematic study of the conduct of student-teaching in all departments of an institution. Accurate data should be secured frequently and analyzed carefully. On the basis of an intelligent interpretation of the situation, constructive discussions can be arranged and a remedial program outlined.

Study of the Time Distribution of Individual Students: A third study which will be described very briefly in this report illustrates the use which a supervising teacher made of the time-record blank in supervising student-teachers who had been assigned to him. Each student was required to keep time records regularly and to hand in a copy at the end of every two weeks. Table II contains the distribution of time for ten student teachers for two weeks. Their reports were made the basis of definite constructive conferences. The records of all students were compared every two weeks, and the records of a given student were compared from time to time. The value of the reports to the supervising teachers was summarized in the following terms by the supervisor who used them systematically for a year:

1. They show how much time was required by individual students to do the work assigned. For illustration a gross inequity was revealed in the assignments of Er. and Br.

2. The records indicate whether or not student-teaching courses require as much time as academic or other professional courses. Inasmuch as the standard requirement is from twelve to fifteen hours each week, the supervising teacher was able to find out who were putting in too much or too little time.

3. The records indicate which activities took most time, which were slighted, overemphasized, and which required more detailed assignments. In this connection the supervising teacher frequently found opportunity to offer constructive suggestions in regard to economical and effective methods of work.

4. The records show whether or not the work is properly distributed throughout a quarter or a semester. It frequently happens that too little work is assigned at the beginning of a course and that too much is crowded in near the end.

The value of time-record blanks to students was summarized as follows:

(1) They remind the student that there are definite specific assignments or regular tasks which must be performed. The time-record blank does this more effectively than occasional statements by teachers.

(2) The fact that a definite record is kept leads to more faithful performance of duties and to a better distribution of work throughout a given period.

(3) They insure students intelligent assignments and in addition, regular and systematic attention from supervising teachers.

TABLE III

Distribution of Time for Ten Student-Teachers for Two Weeks.

Student-Teachers	Activities												Total hours
	O	T	I	L	S	P	Q	E	C	G	R	M	
Sc.	5.6	5.3	.....	.....	.....	4.	9.	.2	.....	.....	.2	2.5	26.8
Er.	3.5	4.	.....	.....	.....	.....	.....	4.	2.3	.....	.....	6.0	19.8
Fr.	6.	3.	.....	.....	1	4.	10.	8.	2.5	.....	.....	.....	34.5
Br.	2.	6.	.....	.....	.....	20.	.....	.....	7.4	2.	.....	1.6	37.4
St.	3.3	4.	.....	.....	1.3	6.	10.	.....	1.7	.2	.....	.....	28.0
H.	3.7	3.2	.....	.....	3.6	.....	8.5	5.	.2	.....	.....	.....	24.2
Dr.	8.	12.5	.....	.....	.....	.....	7.3	.....	2.5	.....	.....	3.5	28.8
McM.	.....	1.6	.....	.....	.....	1.	23.	6.	1.5	.....	.....	.....	33.1
J.	19.	1.9	.....	.....	.5	1.5	.....	6.4	1.3	.....	.....	2.5	33.1
B.	5.7	3.1	.....	.....	.....	3.2	2.2	6.6	3.4	.....	.....	3.3	27.5
Average Time per Week													14.7

O—Observation
T—Class Teaching
I—Teaching individual pupils
L—Assisting in laboratory
S—Supervising study of pupils
P—Preparation of lesson plans
Q—Preparation of subject-matter taught by Supervisor
E—Grading papers
C—Individual conference with Supervisor
G—Group conference with Supervisor
R—Assigned professional reading
M—Miscellaneous

In conclusion, the value of time-record blanks to general supervisors may be summarized in the following terms:

(1) The work in all departments can be organized and supervised more intelligently so that clearly defined results will be secured.

(2) The amount of time given to student teaching can be standardized. It has already been shown that there is as much danger of too much work in some departments as there is danger of too little in other departments.

(3) The records furnish material for definite discussions at teachers' meetings. For illustration, the distribution of student teaching activities throughout a term can frequently be discussed to

advantage. In many institutions the amount of emphasis given to various activities should be thoroughly discussed.

(4) Finally, the time-record blank is a device for analyzing a complex situation and for centering attention in a constructive way on important phases of the student teaching problem.

THE LITERATURE AND PROBLEMS OF PUBLIC SCHOOL FINANCE

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The increasing financial pressure upon the schools, as upon all other public enterprises, has brought to our attention with increased emphasis the urgent need for an exhaustive study, not only of the ways and means for financing public education, but as well, of the basic social, political, economic and educational principles upon which this particular branch of public finance must rest. The first step in such a study naturally calls for a review of the work already accomplished. Partially to serve this end the following characterization and classification of the literature, together with a fairly complete bibliography, are here presented.

Education from the beginnings of our colonial life in America has been looked upon as a function of the State, and early took its place in public expenditures along with police, fire and court protection, road building, etc. It has in a certain sense been looked upon as a protective agency, and wars have proven its right to such a classification, but it has always been regarded as one of the most important developmental agencies in our social organization. In the main, therefore, it has been our social ideals rather than our social necessities that have determined the extent and character of the public school budget.

Some people have been inclined to ask a careful financial accounting of all public agencies devoted to protective or to commercial activities, but consider that developmental agencies, such as the school, should get all the public money they can get and spend it without reference to an efficiency program. Whether that point of view has ever been very widespread in actual practice or not, it is only in recent decades that the public has begun definitely to demand a systematic financial accounting of the schools, and it is practically to these recent years that our literature on public school finance is confined.

As one examines the literature on this subject he cannot but be impressed with the fact that, aside from the ordinary financial reports of school officers, or the more or less general references to the public support of education by the earlier educators and statesmen, there is little, until very recent years, that contributes at all to the development of a science of public school finance. Furthermore, a review of the literature leaves one in doubt as to whether we are as yet entitled to speak of school finance as a science, or, more properly, as a branch of the science of public finance. From the beginning we have been busy solving practical problems. Shall schools be supported by the State? Shall they be free? What kind of a scheme of taxation is best? How shall school moneys be apportioned? How much should a city or State spend on schools? How should it be spent? All these questions have presented themselves much more as practical issues to be decided than as philosophical considerations, if we judge by the available literature. Whatever has been developed in the way of principles or theories touching these matters, therefore, has come, for the most part, from a long and, we must agree, a rather badly guided practice.

The fact that "science of finance" is too dignified a term to apply to our literature does not necessarily imply that no scientific work has been done. Among the titles appended below are many that refer to thoroughly scientific studies. Indeed, almost every aspect of the field of school finance has been carefully studied, and many sound principles have been developed. What we lack, however, is an exhaustive and well coordinated study of the entire field, extending from the purchase of the simplest of school supplies at one extreme, to the social, political, economic and educational philosophy upon which public expenditures for education should rest at the other. At present our literature is, in the main, a scrappy treatment of isolated problems, and, when arranged chronologically, furnishes us with a very interesting chapter in the more recent history of American school practice. Of the 225 titles listed below, approximately 100 deal with one or more of the practical details of city school finance, as many more deal with State or rural problems, and only a very few exclusively with the essential theoretical considerations involved.

In the light of these comments, therefore, it is not strange that we find that most all our studies are inductive rather than deductive in method, eg., that they have analyzed actual experience rather than examined the implications of certain social, political, economic and educational forces. In fact, of this latter sort we have no studies that have been devoted exclusively to a careful analytical treatment of the underlying principles of public school finance. If it is true that practically all our great statesmen, past and present, have pronounced themselves upon the question of the function of the State in education, it is just as true to say that their pronouncements have given expression to an American idea or ideal rather than to a clearly reasoned philosophy of public school financiering.

Thus our literature has grown up about our practical problems, and, since every educational problem is finally a financial one, our literature is widely varied in character. Some of the studies listed below are of a broad and general type, while others are narrow and specific; some pertain to State, others to local situations; some are merely descriptive, others comparative and critical; some deal with income, others with expenditure; some with aims to be accomplished, others with financial methods for accomplishing them; some with cash, others with credit financiering; and some are historical, while others deal with current matters.

Each of these classifications would serve some useful purpose in any attempt to summarize the scientific achievements within this field to date, or in preparing the way for an exhaustive investigation of the subject. Our purpose here is merely to describe or characterize the work thus far done by offering a working classification of a considerable number of the better studies that are available to date. As already suggested, these are mainly studies of situations as they have had to be met. Accordingly any classification, to be most useful, must be based upon some simple grouping of our problems rather than upon the mere logic of the subject alone.

In doing this our first difficulty appears when we attempt to distinguish between those studies which are concerned with the political and social theories upon which our scheme of public education rests, on the one hand, and on the other, those which have been devoted to a study of ways and means for the public support of education. Again, our general studies of public finance, of the theory of the State, of municipal government, of economics and sociology, all contribute substantially to the literature available for the study of public school finance. Then there are the stores of unanalyzed facts about receipts and expenditures for public needs, including public education, such as the publications of the United States Census Bureau, the reports of national, State and city educational officers, and numerous financial papers and journals which await exploitation by the student of this field. Though some of these may seem far removed from the subject, they are essentially a part of any working bibliography that wishes to look beyond the mere surface of public school financiering.

To meet our present needs the following plan of classification is employed as a means of characterizing the studies listed in the bibliography here appended.

I. General works with important bearing on public school finance.
II. The legal basis of public school finance.
III. The practical status of education in public finance.
IV. The distribution of school expenditures.
V. Credit financiering in public education.
VI. Accounting and budgeting of public school funds.
VII. Purchasing and business management.
VIII. Source materials.

Group I, *General Works,* includes only a small number of selected titles which treat of the basic theoretical considerations essential to any thorough study of a financial system for public education. Such larger problems as the function of the State in education; the theory of public finance, including the sources and uses of revenue; municipal government; credit financiering; principles of accounting and bugeting are all represented.

Group II, *The legal basis of public school finance,* includes discussions of legal principles, and of the laws necessary to the carrying on of this State function. This group naturally overlaps Group I, since the discussion of legislation is concerned with the principles underlying the function of the State in education as well as with a practical political and financial machinery for carrying those principles into execution. It also overlaps several of the other groups because it is concerned with the means of accomplishing those practical ends. Yet, for practical purposes, it is convenient to group separately those studies which are primarily concerned with law making.

Group III, *The practical status of education in public finance,* includes studies devoted to the consideration of the practical questions of how much money shall be spent on education and what shall be the sources from which that money is drawn. What portion of all revenues, national, State or local, should go to the support of schools? Our literature gives us no adequate answer to this very important question. What proportion of the total burden should be borne by the different political units? Again our practice is so diverse that we cannot claim to have really reached a satisfactory theory, to say nothing of practice. How shall these revenues be raised? We have almost every conceivable sort of tax scheme operating, and should, by careful analysis of results, be able to eliminate very many and possibly to decide upon the type best adapted to the various types of political, occupational and industrial, social, and financial conditions existing in different parts of the country. On this question of how much should we spend on education, we are much in need of some study devoted to "methods for determining standards."

Group IV, *The distribution of expenditures,* is concerned with how school moneys are to be expended. How shall the United States or a given State spend its money for education so that the best results may be obtained? How much should they devote to academic, professional, technical, higher and elementary schools. How much shall the State contribute to each of the various lesser political units for support of schools? How should a city spend its school money? How much to kindergarten, elementary and high schools, to laboratory equipment, to upkeep, to administration, to supervision, etc.? This group of titles obviously must overlap Group II at many points where the principles of apportionment are under discussion.

Here again our practice reveals a lack of any sort of standards. It is, of course, not uniformity in amount that should be spent for different items, but rather a basis for determining when our money is wisely spent that is needed. Probably no two cities would spend the same relative amount for such an item as administration, yet with a thorough analysis of our practice it would be possible to define administration, and then it would be possible to make comparisons, and so to develop norms. Studies of units of cost are accordingly included in this group.

Group V, *Credit financiering in public education,* includes the literature on school debts. Under what circumstances, in what forms, and to what extent should a school district fall back upon its credit as a means of carrying on its work? What kind of bonds are best for various amounts and purposes? How should bonds be sold, refunded or paid up? Probably there is no point in public school finance at which a greater abuse of ordinary business principles obtains than in the ways in which these questions have been answered in school practice.

Group VI, *Accounting and budgeting of public school funds,* includes literature on methods of accounting and budgeting school moneys. A study of the bookkeeping aspects of public education has been undertaken in recent years with serious purpose, and the result has been, not merely a systematizing of accounts, but, through such systematization, a clarification of much of our administrative procedure. When we have asked of every item of school practice: what did it cost? we have at once raised the question of its educational value, and hence of the value of the administrative scheme by which that value is to be realized.

Group VII, *Purchasing and business management,* covers the practical aspects of managing school business. What is the best plan of organization for the management of school business? is a question that has caused no end of debate and annoyance. Ordering, purchasing, storing, distributing and receipting for school supplies are all practical aspects of school finance that have received attention from writers in this field.

Group VIII, *Source materials,* includes certain important source materials that are essential in any study of a given financial system.

It is not pretended that this bibliography is complete, particularly in groups I, II and IV. Not all school surveys are included, and much of historical value has been omitted. Also, studies of teachers' salaries, bibliographies for which are easily available, have not been included.

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OUR NATIONAL PROGRAM FOR AGRICULTURAL EDUCATION: ITS AIMS, PROGRESS TO DATE, CHIEF WEAKNESSES, CHIEF STRENGTHS.

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(From an Address before the Agricultural Section of the National Society for Vocational Education, Atlantic City, February 24, 1921.)

This subject is not of my own choosing; but I am glad to have the opportunity of wrestling with it, nevertheless.

I.

America is very much an agricultural country. Within a scant hundred years it has quintupled its agricultural lands. Few old-world traditions have held valid in new-world tillage and husbandry. The American farmer has been forced by many conditions to use much machinery, to employ scientific methods, to market at a distance the major part of his product.

Our people have therefore made effective demands for governmental and commercial aid to agriculture. Agricultural colleges, experiment stations, and information service stations are widely distributed. Large corporations have devoted themselves to the manufacture of implements, to the marketing of meats, to the transportation of perishable products. Farmers themselves have formed successful associations to market fruits, develop irrigation and drainage systems, improve breeding animals. When a considerable number of farmers feel the same need, they can easily procure government service in meeting it.

Our urban populations are not without interest in agriculture. They realize that a large part of their food, much of the raw materials they use in manufacture, and the markets for their products rest on a basis of prosperous farming. They are aware of the "drift to the cities," and would check it if they could. They dislike to contemplate a steady mounting of prices of farm products.

More effective farming for the next generation, if it is to come, must derive from many sources—better conservation, better transportation, better marketing, new inventions, more science, and more and better education. But the greatest of these, perhaps the source of sources, is education.

For half a century Americans, urban hardly less than rural, have given through taxation freely to education for farmers and farming. We have had a growing faith in agricultural education especially. Seldom have we known exactly what we meant by agricultural education—but the words have always had a magical lure. We have therefore experimented more or less blindly, but always with much faith.

Now we have at least the beginnings of a national program of agricultural education. True, some phases of that program are only barely decipherable in the educational theory and practice of the nation. But existing traces are important as suggesting possible further developments. Also we are still much confused (without admitting it, often) as to specific objectives. Our faiths, enthusiasms and credulities of course often lead us to expect good crops of educational values from barren soil or poor seed. We often have to get public support by methods familiar to the prospectus writer. Figs do not grow from thistles, even in agricultural education; but at certain stages of growth, it is certainly not easy to distinguish between thistles and fig trees—so why not believe that they are all figs?

Our national program of agricultural education in 1921 has many compartments. First we should distinguish between those types that contribute chiefly to liberal education and those types that are designed to contribute to vocational education. They are still somewhat blended, to the great confusion of each purpose. Then we should distinguish, within the field of vocational education, some types that are higher or collegiate and others that are lower or secondary. We should distinguish full-time from part-time and extension. Finally, we should distinguish basic (containing a large amount of practice) from technical (consisting chiefly of book and laboratory knowledge).

These various types may be classified as follows:

A. LIBERAL OR APPRECIATIONAL.

1. Phases of nature study, gardening or agriculture in first six grades of urban or rural elementary schools.

2. Practical Arts, giving home project work in upper grades, for pupils chiefly between 12 and 15.

3. General courses in technical or informational agriculture in high schools.

4. Phases of economics, sociology, rural sociology, and (largely yet to be developed) liberalizing agricultural studies in college and normal schools.

B. VOCATIONAL OR EXECUTIVE.

5. Technical or informational agriculture (fractional time) in high schools for youths of 14 to 18.

6. Basic full-time or half-time farm training, home projects or (in a few cases) school projects for boys 14 to 19.

7. Full-time or half-time technical agriculture in special (often boarding) schools for boys or men from 14 to 25 (recent tendencies towards winter half year school attendance, and summer half year home project work).

8. Full-time agricultural college non-degree work (sometimes like that of (7) above, sometimes practical specialties).

9. Full-time agricultural college degree work, primarily technical.

10. Extension courses for experienced farmers, under agricultural college auspices (includes "short courses", correspondence courses, extra-mural courses, etc.).

II.

What are these various forms of agricultural education for? To what extent are our aims now realized? In some cases we can answer very definitely; in others, only in terms of aspirations and beliefs.

1. The objectives of cultural education in the grades are yet ill-defined. All agree that the schools should help children to understand their own environment. That justifies nature study, gardening, and the like for rural and village children. Probably it is important that they learn of environments of others. That might

justify nature study in urban schools. How much? For all children or only for those of easily kindled interests? We need more light here.

Rural school teachers have been greatly urged to "correlate" the traditional studies with projects and problems from country environment. Standards of achievement here are still vague, almost mystical. It is believed that somehow such teaching will give these children greater interest in the country, lures towards the agricultural vocations, and appreciation of the possibilities of technical agriculture. All these objectives are in need of much more extended study.

2. Practical arts projects, directed, or at least inspired by interested specialists in or out of schools, for country boys from 12 to 16 years of age, have proven very successful, at least in kindling and sustaining interests. Corn clubs, pig clubs, potato clubs, canning clubs, are some of the types. Under state and even national auspices, this type of educational work has had extensive trial.

Some boys get very keen vocational appreciations from this home project work. A few unquestionably gain valuable vocational powers—manipulative skills, managerial skills, technical knowledge. The prevailing pedagogy bears many points of resemblance to that of scouting. The competitive spirit is easily enlisted, perhaps at times excessively. But under its pressure the amateur spirit that is natural for this age may become a very serious working spirit. This type of education appeals almost exclusively to boys naturally keen, zealous, imaginative, ambitious. Probably most of the boys who succeed in these projects have native qualities which almost certaintly destine them to ultimate-success in life under any conditions.

3. Technical agriculture, as an academic course in high schools, has had a mixed history. Educators have usually introduced it as a contribution towards vocational ends. The subject has lent itself well to text book makers, many of the available texts and manuals being remarkably fine.

It is too early to evaluate achievements from this type of instruction. Probably it has no more contributed directly to vocational powers than have high school chemistry, geometry, or commercial law. But the objectives of all high school subjects in terms of culture or appreciation are poorly defined. Why should a good text book course in agriculture, supplemented by some laboratory illustration, be inferior as a subject of liberal education to physics, algebra or physical geography—especially if an elective system permits only those boys or girls to elect it who really care for that sort of thing?

Probably it is bad to try to have any school subject serve simultaneously the ends of vocational and of liberal education. Both types of objectives will almost certainly be poorly met in the process.

There are good reasons for believing that within the next few years we shall be able to give clear and fuller definition to the desirable and practicable objectives of liberal education. When that is done we can then answer this question: Cannot a course in agriculture, suited to second or third year high school students, be devised which will be highly cultural, especially for city youth? Perhaps a modified form of course could be adapted to rural high schools.

4. In the colleges, too, the pedagogy of liberal education now held is clearly inadequate for the purpose of discovering the actual values of the rural sociology and other studies related to country life and agricultural production; since, however, these courses are usually elective, and are therefore taken by persons who presumably have genuine intellectual or social interests in them, their actual educational values may not be matters of very great moment.

III.

The purposes of any form of vocational education must be determined first of all through the powers shown by the adults who now follow the vocation. The best standards can be found by studying those adults who are somewhat above the average of excellence in the performance of that vocation.

The success of any scheme of vocational training must also eventually be judged by the achievements in adult years of those trained. Even the best vocational school can contribute only part of the manipulative skills, managerial powers, technical knowledge and vocational perspective that eventually combine in vocational success. All plans of vocational schooling will be uncertain until we learn to measure our own products.

The agricultural vocations are many. Some are of professional level, others require only physical strength and endurance. Our national program of agricultural education recognizes some of these clearly, some vaguely, some not at all. The following crude classification of agricultural vocations will help to classify the objectives of vocational schools of agriculture:

1. The professional agricultural vocations—teaching, experiment station work, analysts, county agents, etc.
2. Specialized managerial vocations on large plantations, with large herds, for farm produce marketing, etc.
3. "Owning and working farmer" vocations, varied according to locality and according to degree of specialization of major lines of production.
4. "Tenant farmer" vocations, varied also according to region, degree of specialization of product and perhaps social status of tenant.
5. Expert or specialized agricultural employee, wage-earning or technician service.
6. General employee service (farm hand, harvester, unskilled labor).

On certain problems of relating vocational agricultural education to the above vocations we have considerable well-defined experience; and on others hardly any.

It is a fact that most of the professional workers, as defined above, are degree holders from agricultural colleges. It is also a fact that agricultural college extension courses have become increasingly well-adapted to the needs of experienced farmers, usually men over twenty-five years of age.

Degree holders also fill to a considerable extent managerial positions; but the extent to which their entrance and success in managerial work is due on the one hand to the native excellence of the men thus selected and, on the other, to the training actually given them in college, is uncertain.

Persons taking full-time non-degree work in agricultural colleges probably become farmers in the main. The same seems to be true of a large proportion of the more mature students taking full-time or half time work in agricultural secondary schools.

The proportion of agricultural college graduates who become owning or tenant farmers or farm laborers seems to be small, tho accurate estimates are wanting.

It is too early to judge of the results from full or half-time secondary schools of basic training. Some of their graduates will probably go to college and then enter the professions. Those who do not will probably become, eventually, owning or tenant farmers, after a period as laborers, minor partners, or specialist service.

The actual vocational functioning of half-time or other pre-vocational technical instruction seems to the present writer still completely in doubt. As in the case of pre-vocational technical high schools, courses will often function as college preparatory. Or, as in the case of commercial courses, such agricultural courses are selective of the interests and abilities destined to the farming vocations in any event. It is doubtful if they serve the purposes of guidance, and it is never certain that they make important contributions to genuine vocational competency.

IV.

Of the foregoing types of agricultural education some are growing in importance, some declining.

Agricultural colleges are expanding both their degree work and their extension courses. Probably their non-degree residence work is diminishing. It is not unlikely that the needs of the country for agricultural leaders and specialists of professional grade are being very well met. Half-time secondary schools of basic training are expanding rapidly. Full-time residence secondary technical schools are not greatly increasing and many of them are trying to become schools of basic training through use of home projects or correlation of courses with practical work performed in the long vacation seasons.

Pre-vocational technical courses in high schools are of diminishing importance except in states backward in the development of basic secondary schools, or where strong faith still attaches to that hybrid called agricultural high school.

Practical arts home project work expanded greatly under war-time needs, but seems to have reached a stationary level for the moment. Nature study through agriculture in the grades, as well as general technical courses in high schools are in a bad way, not so much, perhaps from faulty aims as from poverty of good method and aiding devices.

V.

There exist several unsolved problems in our national scheme of agricultural education. The Census of 1910 gives the number of farmers and of farm laborers in the country as, roughly speaking, 6,000,000 respectively. Doubtless a large proportion of those classified as farmers were over 30 years of age; whilst a very considerable proportion of those classified as laborers were under that age.

Clearly the annual withdrawals from the farmer's vocation will exceed 200,000 a year. Accessions to that vocation should be even more numerous. The census does not help us to ascertain the numbers of professional agriculturists in the country in the sense here given to the term. But it is a safe guess than from 2,000 to 5,000 young men holding degrees are being annually accessioned to these higher callings.

The problem of first importance to us now in agricultural education is that of determining as far as practicable the serviceable sources of vocational training for the farming callings. Is it to be expected that during the next twenty-five years the agricultural colleges can or should be expected to contribute in large measure to this supply? To the present writer there appear no more good reasons for looking to vocational schools of collegiate grade to supply us with new farmers than for looking to corresponding schools for supplies of trained carpenters, cooks, coal miners, and machinists.

The greatest present need of America (in agricultural education) as the present writer sees it, is the widespread development of very practical agricultural schools of secondary grade within daily reach of farmers' sons, from 15 to 20 years of age. A state like Ohio should probably have 300 or 400 such schools. They can be economically administered with as few as 15 pupils in average attendance, since most of the needed equipment, except books, will be found on the boys' own farms. At least half of the pupil's working time, preferably for twelve months, should be spent in the execution of comprehensive, money-making home projects inspired and guided by the teacher. Pedagogical formulations for this method are now well defined, although many educators still feel the need of inducing. if not indeed requiring, the carrying of parallel cultural courses, instead of the better plan of insuring the completion before entry upon vocational training (as do all efficient professional schools) of an amount of general schooling, adequate to the learners' powers, interests and future needs. Too often educators still yield to the vicious practice of trying to have practical vocational training counted for credit towards college admission, thus entailing a very academic character on the so-called vocational training.

But progress is being made. Educators are increasingly recognizing the futility, for persons of average intelligence rating at least, of extensive prevocational technical instruction in agriculture. The home-project method, with its insistent contributions to managerial powers, is being widely adopted.

There remains another problem, of first magnitude at present. Who can become successful farmers under present conditions? It is a truism that the farmer of today is a large capital holder, a manager, a man of commerce and a day laborer. Like an able homemaker, he seems obligated to achieve powers everywhere else distributed among specialists.

Who can reach this stature? Suppose we take a thousand farmers' sons at random, all fifteen years of age, and subject them to the best of known intelligence texts: Before us are the farm owning or tenant farming vocations of the northern Mississippi Valley states. Shall we advise those rating among the lowest fourth in intelligence to strive to become farmers at 26 or 30? How about those in the third quarter from the highest?

Shall we advise any of these to try to content themselves with the farm laborer's status for all their lives? Are men of less than average intelligence almost certain to break down under the load of "managing farmer"? On the other hand could we give the specific vocational training towards useful specialties, as we can do for corresponding men in commerce, industry, mining, and transportation? Or may it be that "intelligence" as the psychologist defines it, does not correlate at all closely with "farm management" as a competitive social order shapes it in a world of practice?

THE TRAINING OF TEACHERS TO SUPERVISE STUDY

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Within the last five years literature on education has devoted a steadily increasing amount of space to discussions on various aspects of supervised study. A large number of elementary and high schools now include some form of this procedure. With the introduction of supervised study there has been an accompanying change in the length of class periods, length of school day, and especially a wide revision of classroom management and method of teaching. It is interesting to find, however, that in the large number of articles and books on supervised study, and in the many applications of it in schools throughout the country, a distressingly small amount of scientific experimentation with published results has been made available. A few scattered studies have been made, especially in the field of mathematics. Studies in the latter field of the learning process have thrown valuable light on some phases of study supervision. In fact, the necessary information for carrying on this type of school procedure comes at present from fields other than those strictly supervised study. A vast amount of experimentation and thoroughgoing investigation are as necessary in this field of teaching as in the other branches of methodology where investigation and experimentation have yielded revolutionizing results.

The introduction of supervised study is being delayed in many schools for a variety of practical reasons. In some places, especially large cities, the distances that pupils must travel between home and high school seems to prohibit a material lengthening of the day. The vast amount of social activities in many high schools, again especially in the cities, precludes the lengthening of the class period with the consequent lengthening of the school day. In very many cases teachers themselves object to the extension of the class period and the day. In a vast number of schools lack of available funds for needed supervised study equipment prohibits its introduction.

The most serious and most universal obstacle in the way of a whole-hearted interest and far-reaching application of supervised study, however, is to be found in the lack of knowledge regarding the actual technique of supervision. Here, again, those who are especially interested in training pupils to study are groping about in foggy dusk because of lack of sufficient experimentation to make even tentative conclusions reliable. Schools of education, with a few exceptions, have so far failed to give any considerable attention to a deep-going study of this whole problem of supervised study. This doubtless is due in most cases to the lack of adequate facilities for experimentation and investigation.

Under the method of cooperative training of teachers in Cincinnati some attempt is being made to focus the attention of cadets in training upon the various problems connected with supervised study. Cooperative teacher training in Cincinnati is a plan whereby fifth year students, that is, students who have received their A.B. degree, are assigned to half-time teaching in the elementary and high schools of the city. In the elementary school four cadets are placed in charge of one cooperating teacher who is a regular teacher of the public schools, selected because of her demonstrated efficiency as a teacher. Two of the cadets teach in the morning and attend University courses in the afternoon, the other two cadets attend University courses in the morning and teach in the elementary schools in the afternoon. In the high school two cadets are placed under one cooperating teacher. The teaching is confined to two morning hours each day throughout the year, the cadet being in complete charge of her classes. For these services the cadets in all schools receive one half of the initial salary of a regular full time elementary school teacher. The work of the cadets is supervised by the cooperating teacher in charge, by members of the College for Teachers staff, and by any others whose special knowledge of subject-matter makes it valuable for them to determine the scholarship of the cadet while teaching. This is especially true in such subjects as Latin, modern languages, and mathematics.

This cooperative arrangement provides a natural school environment in which the cadet receives training. Actual school problems are faced and the responsibility for results that approximate those of a regular teacher demands that the cadet give the closest attention to her practice teaching. In one high school last year the pupils in the classes of the cadets excelled those of a few similar classes taught by regular teachers. It is under such conditions that the cadets in Cincinnati are given some experience in the supervision of study. A brief outline of the work in this particular part of their training will indicate its scope as it is at present organized.

UNIVERSITY COURSES IN EDUCATION

1. In the University courses in education, especially those in secondary education, the students are made acquainted with the literature on supervised study and with the contents of a course on study. Such a course includes:

Selective review of "The Learning Process," intensive study of individual differences; use of tests as a means of diagnosing individual differences; various types of class management permitting supervised study; study coaching through conferences; the cooperative and group assignments; the use of study tools such as books. apparatus, notebooks; various procedures in studying; types of examinations other than standard tests. In one course special administrative problems related to supervised study are discussed.

The cadets are required to work out assignments on methods of supervision in their respective subjects. Assignments on how to supervise special phases of the study process are frequently given. The students are directed also in the breaking up of their classes into groups based on tests and information gathered from the daily work of the pupils in the high school. In other words, the courses on methodology in secondary education stress to a considerable extent the problems of teaching as interpreted in the terms of study supervision. Teaching is interpreted to mean a procedure whereby the pupil is trained to teach himself.

PRACTICE TEACHING IN THE HIGH SCHOOL

In the cadets' daily teaching in the high school, training in supervised study follows along two lines: (1) supervision of study during the regular class period; (2) coaching during vacant periods and after school.

I. Supervision of Study During the Regular Class Period

1. Supervised study in the regular class period is emphasized especially during the assignment of new work. Not only are the cadets expected to make the limits of the assignment definite and clear, but the contents of the new work are studied cooperatively by teacher

and pupils for the purpose of evolving a general plan whereby the pupils may be able to study the new work economically. To a casual observer it might appear that the supervision of study at this point does not differ from the ordinary teaching of the advance to be found in any class that is carefully taught. The difference, however, is fundamental. Instead of passing from the daily "recitation" or review into the so-called "advance" (this followed in turn by the statement of the assignment at the end of the period,) the statement of the assignment precedes the teaching of the new work and a definite association is established between the cooperative studying in the class and the pupils' independent studying during vacant periods or at home. During this directed assignment and cooperative studying, the children are taught how to study the particular type of material involved in the given assignment. In mathematics, for example, a few minutes are devoted to the reading of the rules and definitions, etc., that may be included in the assignment, and to the reading of typical problems or exercises so that the pupil may understand the language of the new work. In addition to a careful analysis of the English expressions of the new assignment the pupil is directed in the mathematical analysis of a typical problem. He is shown the steps to be taken, the general form to be used, and his attention is called to the habits of accuracy, conciseness, and neatness. In language work, such as Latin or French or Spanish, a variety of procedures may be followed, but every effort is made to work with the pupil in planning a procedure that will facilitate translation or drill, as the case may be.

2. Considerable attention is paid to training the high school pupil in the use of his textbook, reference book, and notebook. This, obviously, is not necessary every day, but whenever a new unit is introduced and the nature of its contents so demands, part of the hour is devoted to directive studying in these fields.

3. Another and even more important aspect of this supervisory work involves a diagnosis of the pupils' difficulties. In the University courses the cadets are expected to make a careful study of individual differences, their causes, symptoms, and such remedial measures as have been found effective. In the high school classes the data made available in the cadets' University courses and in a closer acquaintance with the pupils are supplied as far as the present schedule permits. The Cincinnati high school period is about 42

minutes in the clear. The classes are large and with these two handicaps the cadet does not have adequate opportunity for group instruction within the class. To some extent, however, such groups are formed and by means of group assignments it is possible for the cadet to spend some time in directing those who seem to be in need of special supervision. Sufficient time is spent on this part of the work to make the cadet skilful in managing a class whose rate of progress is timed according to individual differences. It is interesting to find that by means of such training the point of view of the cadets is significantly developed. The teacher in training does not expect the pupils in her class to conform to a general class standard. The pupil's type of ability is allowed to enter in as an important factor in determining the progress that he makes.

4. In addition to the foregoing the cadets are trained in giving examinations. In these examinations they are expected to provide means for testing the pupils' knowledge of technique of study.

Owing to the comparative short class periods there is little opportunity for silent study in connection with the regular class work. It is believed, however, that by means of cooperative studying the pupil is well started in his studying of the new assignment. If time permitted, it would doubtless be wiser to allow the pupil to do most, if not all, of his studying immediately after the cooperative assignment had been completed. He would then study under the direction of the one who assigned the work, and from whom he might properly expect wise guidance.

Twice a week the cadets meet in a practicum at the University where the current problems of their practice teaching are reviewed. Many of these problems deal with pupils' habits of study, and an effort is made in the discussion of these several problems to formulate procedures whereby effective assistance may be given to the needy pupils. The practicum is to a considerable degree a clearing house for problems of supervised study.

II. COACHING DURING VACANT PERIODS AND AFTER SCHOOL

In their eagerness to make good the cadets are tempted to devote more time to their practice than is required by the College for Teachers. Last year, for example, it was discovered that one of the cadets gave two extra hours a day to the coaching of practically all the members of her rather retarded class. Her pupils came from poor homes with barely any educational background and they found learning Spanish especially difficult. Ordinarily, such a group of pupils would become discouraged and drop the course at their first opportunity. It was found, however, that by this cadet's devotion to her subject and her task, every one of these pupils was enabled to complete the course with not a little credit to himself. It might be assumed that the cadet succeeded in achieving such results by doing practically all of the work for the pupils. As a matter of fact, however, she devoted her time to adapting the assignments to the differences of each of her fifteen pupils. Not all of them required an equal amount of coaching. At the end of five or six weeks only two of them required any considerable amount of help. So valuable was supervision by the cadet that the pupils were loath to abandon studying in the school for that at home, although in the school they were expected to work independently under supervision. It is a matter of common observation that at home the pupils are in the habit of soliciting help from everyone available and consequently much of their home work is accomplished with unwise assistance from those who are interested in the child's progress. In schools, however, where supervision of study is available, the necessary help offered by a trained supervisor will not give the child more help than is absolutely necessary for economical and encouraging study.

In connection with all of this work in supervised study the cadets spend considerable time in becoming acquainted with the rapidly growing literature on study and supervised study. In a special course offered at the University this literature is analyzed and the various aspects of study and supervision critically discussed.

THE COMMON CONTENT MATERIAL OF SPECIAL METHOD COURSE

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Introduction.

The problem. The problem that confronts the curricula makers of the teachers' training institution is that of determining first the core of "Minimum Essentials" that shall be taken by all students of education, and second of determining the common content of the "Special Method" courses which are taken later by all prospective teachers. These two phases of the problem must be worked out experimentally and simultaneously in order that unnecessary overlapping of the two fields may be eliminated as rapidly as possible. A certain amount of overlapping is essential to establish a proper correlation between the field of general materials and the field of special materials, which is for the most part the application of the general materials to concrete cases. This means that certain phases of general materials should be reviewed in the special field as a sort of pedagogical warming up for the attack upon the materials in the special field.

The point of departure. The point of departure in determining the relation of the special field of teaching to the general field of educational training is the classroom or the teaching situation in the secondary school. The question is first, what must every teacher know in order to work with any field of subject-matter whatsoever, and second what must a teacher who deals with mathematics know that a teacher who deals with history does not need to know, and what must the teacher who deals with history know that the teachers who deal with other subjects do not need to know, etc. When these two questions have been answered, then the further question of where to place the pedagogical material that every teacher must know in order to teach intelligently can be raised and answered in the light of experience. That is to say experience alone will ultimately show whether it is best to include all the general material about teaching in the "Minimum Essentials" course or whether it is better to place only certain phases of general material about teaching in the "Minimum Essentials" course and place the rest of this fundamental material in the "Special Method" courses. In other words only valid experience in the training of teachers will give the final answer to the question as to whether there should be a certain "Common Content" of general pedagogical material in all the "Special Method" courses or whether these courses should be strictly special and have no "Common Content" material at all.

The point of view. The point of view that is taken in this paper is that the common pedagogical material, that every high school teacher should master quite thoroughly, should be considered as the "Common Content" material of the "Special Method" courses, and that this material should remain in these special courses until careful experimentation shows what phases of this pedagogical material can be offered so effectively in the "Minimum Essentials" course that to continue it in the "Special Method" courses is an unnecessary overlapping of the content of the two fields. Whenever the teachers of "Special Method" courses find that the students come to them with such thorough mastery of the fundamental pedagogical concepts, laws, rules, etc., that they are able to proceed at once to the detailed application of these pedagogical materials to dealing with a special field of subject-matter, then the time will have arrived when it will be economical to retain in the "Special Method" courses only such review of these general pedagogical materials as will serve as a warming up for the special attack upon the particular high school subject.

A suggestion. The writer would like to suggest that the title of the special courses for teachers be changed from the usual title "Special Method," or "Teachers' Course in the Teaching of Mathematics, or History," or whatever the subject may be, to the title "The Principles of Teaching High School Pupils by Means of Mathematics, or History" or whatever the subject may be. The reason for this suggestion is that the term "Method" or "Methods" is narrow and includes only a very small part of the actual field of material that should be covered in these special courses. The term "Method" should be restricted to mean just the psychological processes of the learner in dealing with subject-matter presented to his mind. These psychological processes of the learner are of the most vital importance, but there are a good many other phases of the whole teaching situation that also need emphasis and they should not be thought of as being method. For example, devices are important, but they are not method. On the other hand the term "Principles" is a broad term, if taken in its literal sense which means chief or leading things, and may rightfully include all of the important concepts, definitions, rules, laws, etc., that the teacher must know in order to teach effectively. The amended title would do away with the confusion caused by the use of a narrow term to indicate a broader field of considerations, and it would put the emphasis upon the pupils instead of upon the subject. With the above qualifications in mind "The Principles of Teaching High School Pupils" may now be set forth as the "Common Content" of the teachers' courses.

Principles Enumerated.

The most important principles that should be considered by the high school teacher are as follows:

1. The modern conception of the secondary school, which should include:
    - a. The meaning of adolescence.
    - b. The function of the secondary school as an institution.
    - c. The function of the high school subjects.
2. The psychological processes of the learner, or method. These processes include:
    - a. The general mental movement of the mind in the learning of any kind of subject-matter.
    - b. The specific mental processes that go on within the general mental movement of the mind as it is employed in the learning of a particular body of subject-matter.
3. The motivation of learning. This involves:
    - a. Interest.
    - b. The dominant psychological traits of adolescents.
    - c. The physiological characteristics and limitations of adolescents.
    - d. The sociological traits and tendencies of adolescents.
    - e. The possible results in the education or development of individuals through the study of the various subjects. These results include the immediate results upon the ability of the learner, and the future opportunities that may be opened up to the learner in the same or in othe fields.

4. Individual differences in:
    - a. Rates of speed in learning.
    - b. Previous training.
    - c. Mental maturity.
    - d. Sex traits.
5. The organization of subject-matter from the standpoint of:
    - a. The central idea that has brought the body of subject-matter into existence.
    - b. Presenting the subject-matter to pupils of high school age. This involves the choice between inductive and deductive types of organization of the subject-matter as a whole, or of any part of the subject.
    - c. The proper balancing of content and formal material in a course.
    - d. The relating of the subject to other subjects and to the general affairs of life.
    - e. The psychological gradation and arrangement of material according to the mental maturity of the particular group of pupils. This involves the choice between the use of:
        - (1) The problem.
        - (2) The project.
    - f. The units or wholes that may be taken for the most effective mastering and memorizing of the facts, according to the mental maturity of the learner.
6. Devices from the standpoint of:
    - a. Classification for practical purposes.
    - b. The criteria that should guide in their selection and use.
7. Measurement of the results of teaching. This involves:
    - a. The evaluation of actions during the teaching periods.
    - b. The employment of quizzes and examinations.
    - c. The use of standard tests.
8. Technique of teaching from the standpoint of:
    - a. The criteria that should determine the selection and use of the particular acts practiced.
    - b. A body of technique that is in general considered bad.
    - c. A body of technique that is in general considered good.

9. The supervision of the study habits of high school pupils. This involves:
    a. The direction of group study.
    b. The guidance of individual study.
10. The problem of conduct or the development of control of behavior of high school pupils.

The Length of Special Teachers' Courses. The usual length of the special teachers' courses is two and three semester hours. If anything like all of the above material is offered in these courses as "Common Content" and is adequately treated, these courses must be lengthened to at least five semester hours or even longer. In fact three semester hours will be none too long for just this field of general material. Then the detailed application of these principles to the teaching of high school pupils by means of the particular subject will require at least two semester hours more of intensive treatment. One criticism against the lengthening of these special teachers' courses and especially against the including of this large body of "Common Content" material in these courses is that many of the teachers of these courses are not adequately prepared to teach the general field of pedagogical materials involved. The only answer that seems valid to make to such a criticism is, that a teacher who is not adequately prepared to teach the general field of pedagogical principles that are involved in the teaching of high school pupils is not at all prepared to teach the detailed applications of these general principles to the teaching of high school pupils by means of any special subject no matter how high his academic scholarship in that subject may be. Let the material of these special courses be selected to meet the teacher-training need and not to meet the weakness in the preparation of the teachers who may by force of circumstances be called upon to offer them.

SOME SECOND LIEUTENANT PSYCHOLOGY IN SCHOOL ADMINISTRATION

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A certain private soldier sat in the park a few yards from a path when there passed by a captain. The soldier sat still. Soon a colonel came that way, when the soldier failed again to rise. About a half hour later the soldier's eye recognized a gold bar approaching and in good time he rose with vim and gave a snappy salute. He had learned that whereas the captain was tolerant and the colonel was charitable the second-lieutenant was not given to overlook the slightest detail of discipline nor to miss an opportunity to remind a soldier of the latter's inferiority in rank.

It should be noted, however, that the second-lieutenant is responsible in a great measure for the details of discipline in the Army and that without him discipline could hardly be effective under present army administration. In spite of this fact it need not be stated that as a type of commissioned officer the second lieutenant is the most unpopular.

Two very fundamental facts are apparent in the development of a second lieutenant in the army. One is, that, as a rule, he rises from the ranks. He had long been a private soldier in which capacity he often chafed under the hardships of subservience or, at least, of subordination of a marked degree. When he became a commissioned officer the change was so great that instead of his constantly remembering how he had felt as a private he is apt to be over conscious of his superiority in rank and his newly assumed authority. Consequently he may become tyrannical.

To be sure, however, he does not always become so. If he is a man of very high qualities and of a lofty sense of social obligation he may become all the better officer just because he was once an enlisted man. If, on the other hand, he lacks a high degree of the more cherished social traits he is very apt, upon becoming aware of his short comings, to resort to all kinds of means to try to remind the enlisted man and actually to remind himself (unconsciously) that he has authority—thus to try to fool both parties to believe he really does possess the traits and abilities which he should possess but which he knows he lacks.

Although this tendency of the weaker man to exaggerate his egotism is most apparent when ability is most lacking the phenomenon is but a universal trait that has a tendency to seek expression by all grades of humans.

For fear of being misunderstood the writer wants to emphasize his conviction here that the average unpopular second-lieutenant is not aware of the cause of his unpopularity and that any attempt on his part to exaggerate his self importance and consequently to belittle his subordinate is more or less unconscious. Hence there is not any moral implication, but a mere attempt to call attention to a phenomenon which for this type of administrator to take notice of will merely mean his keeping himself on guard against it.

Before considering immediate application to the school man let there be analyzed a few specific instances of the writer's observation. There was First Lieutenant X who was a kind of adjutant of the psychological Board at Camp Z, with First Lieutenant O on the same Board. Lts. O and X were both Psychologists and O professionally ranked higher, perhaps than X. Several pages would not suffice to describe the varied methods X resorted to in order to suggest to Lt. O and the enlisted men of that Board that Lt. X was Adjutant which in turn implied certain temporary authority that O did not possess. To illustrate, when Lt. O would leave the office to administer group intelligence tests on a given morning this Adjutant was wont to ask numerous detailed questions upon perfectly obvious matters and on O's return would most generally proceed with another sort of check-up question on Lt. O's work of the forenoon. This was a stereotyped procedure which in turn for O became so interesting a phenomenon that he set about to anticipate before each appearance in the office the sequence of questions. By taking notes it was found by O that he could prophecy this procedure of Lt. X about as accurately as the writer used to anticipate each next succeeding phrase or sentence of the college chapel prayer which he had heard repeatedly in earlier days.

In that office the enlisted men, most of whom were highly trained professional men, some of whom obviously were more highly trained in the best clinics and universities than was Lt. X, were all held by him to the most strict letter of military formalities. Why? Undoubtedly because Lt. X did not actually possess the abilities which he wished he did possess, and which wishes he realized instead, by attempting more or less unconsciously to fool those about him to believe that he did possess these coveted abilities.

How well the writer can remember standing "at attention" in Colonel Q's office almost daily to receive the colonel's orders and to answer questions of the day's routine when no one else was in sight! Perfectly good military form to have to do so, but a very unusual demand under those circumstances from a subordinate officer in peace times. This colonel lost no opportunity to magnify every jot and tittle in formal discipline. The writer, however, believes in strict army discipline and found it no hardship to subscribe to proper courtesies to superior officers as well as to demand the appropriate courtesies from subordinates. It was indispensable to the entire military machinery. But for any man to be called upon to pass through formalities for no other obvious reason than to satisfy an exaggerated but perhaps unconscious feeling of self importance of an individual of greater authority, is somewhat humiliating when not humorous.

Certainly such an administrator does not elicit from his staff whole hearted efforts. Because of military duties at numerous posts during the war the writer found several colonels much like Q and some lieutenants similar to X. On the other hand, a large number of officers of all ranks were found with qualities that were so lofty as to stimulate one to find the most lavish military courtesies a pleasure.

Parallels in school administration the readers can supply abundantly. This "second-lieutenant" phenomenon also shows itself in that administrator who finds himself constantly defending his awareness of the fortress of superiority by ignoring the advices of his subordinates, or passing them by as of but little consequence, to burst forth with them at some subsequent time as this administrator's own brand-new ideas. Thus with great enthusiasm he bids for the support of the very authors of the idea which previously he had ignored or had condemned. The self-defacing private secretary and lieutenant of such an administrator contributes oftentimes an immeasurable service by constantly suggesting ideas here and there, in spite of the fact he may not openly be recognized for his contribution.

Human nature has its subtleties of all sorts and the administrator easily can fall heir to condemnations which apparently are culpable, but *which after all are only human traits and frailties relatively magnified.* Mindful of this fact, let the subordinate work with charity toward his superior and let the administrator constantly remind himself that there are certain human frailties against which he must fortify himself.

A SUGGESTED COURSE OF LESSONS IN SOCIAL RELATIONS FOR PROSPECTIVE TEACHERS

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The general field of social education is made up of many problems not the least important of which is the problem of *social conventions.* It is with this problem that the present study has to do. It is true that there are some people who scorn the idea of "teaching" the social conventions. But where we have one who insists that "ceremonial and conventionality are bound to go" we have many who advocate the theory expressed by Mr. Frank E. Howard of Middlebury College: "Society can't exist without conventions. As social beings we need to do many things as others do them in order to avoid friction. We can't think everything out for ourselves." We have rules and regulations for our business intercourse, in fact for all phases of life. Each has its purpose to save time, to give justice, and to make the daily affairs of life go smoothly and pleasantly. The social conventions are simply the laws of social intercourse and their purpose is to safeguard it and make it pleasant.

The school is coming to accept this view and to consider that it is its duty to make its pupils socially efficient. Just how it is meeting this responsibility, however, is very hard to know. An examination of catalogs of normal schools representing all sections of our country throws very little light on the subject. None refer definitely to any courses dealing with this subject; one gives a course in "social education," the description of which suggests that some time might be given to this topic of conventions; several refer to their social program as being under the direction of a faculty committee; some explicitly (and perhaps wisely) leave it to the dean of women; and one states that the members of its faculty are chosen with reference to their power to "influence the morals and manners of the students." The majority of the catalogs, however, leave the reader entirely in the dark in regard to what the schools are doing by way of preparing future teachers for this phase of their work or of offsetting deficits in their early training in "social conventions."

The responsibility for the solution of the problem seems properly to rest with the normal school; it should give a course of lessons on social relations which should have as a general aim to make the teacher herself socially efficient in the narrower sense; that is, to give him or her an appreciation of the principles of good manners and some initial ease in the practices of good social usage; and to insure an appreciation of the value of social efficiency for pupils and a sensitiveness to the responsibility of helping them attain it. Apparently it would be most advantageous that such a course be given to the students during their first semester in the normal school in order that they may apply and test the principles during the rest of their school life, and in order that the dean of women and the rest of the faculty may have the longest possible time in which to do "follow-up work."

As a result of this belief I submit the following outline of a suggested course of lessons on social relations. In general, the method followed will be that of class discussions of topics assigned a week in advance, with reading references for the class. One hour a week in the first semester of the school may appropriately be given to this work as a part of the introductory course in which the students are "oriented."

The material of the course falls logically into two main groups of problems:

(1) Discussions of the theories and principles of social relations as expressed through good manners, and (2) studies of practical problems of social conventions. But the values of such a course are likely to be the better realized the less formal the method of procedure.

The following series of assignments or problems for class discussion will suggest both the possibilities of such a course and the need of doing a great deal more work upon it.

I

Discuss: social; society (different senses); conventions; conventionality; politeness; etiquette; manners; kindness; courtesy; love; propriety; social usage.

Do you consider good manners a superfluity or a necessity?

Compare English, French, Norwegian, and American "manners" in specific situations. Explain differences. An argument for or against teaching manners?

Contrast present day conceptions of manners and propriety with those of fifty years ago; of one hundred fifty years ago; significance for our study.

What if any criticisms of American manners have you read? For and against.

Who should be criticised for a child's rude conduct? The child? The parents? The teacher? What is the teacher's responsibility?

Is it fair to expect more socially from the average teacher today than from the parents of her pupils? Always? Ever? When? Why?

II

Think of the teachers who have been most help to you socially. Enumerate some of their characteristics.

Were they different from other courteous well-bred women?

Is it enough for a teacher merely to know and practice good manners in her daily life? If not, why not?

Is it essential that she should practice good manners?

Are teachers today generally considered "socially efficient?" Do you consider a teacher qualified for her work who is not?

What are some of the things a teacher will need to know in order to be socially useful in a school:

1. As regards general social affairs.
2. As regards pupils' instinct, habits, training, home conditions.
3. As regards the school as a social organization?

What must be her attitude toward the problem?

III

Explain: "What you are speaks so loudly I cannot hear what you say."

Does it suggest any relation between ethics and etiquette? Recall original meaning of etiquette.

"In the long run what the parent or teacher gives to the young is just one's self, very little more and very little less." (Dr. Coe.) What significance has this statement to our study?

Is etiquette a means or an end?

If a means what is the end?

"Etiquette is only a tool and should never be mistaken for the finished product." What is the finished product for which it might be mistaken?

What is the relation between courtesy and conventionality?

What is the foundation of all true courtesy?

Compare the basic principles of courtesy of today with those of one hundred years ago. Does it follow that social usage should be the same as in former days? Justify your answer.

Is the problem of social conventions easier in an aristocracy or a democracy? Why?

Is our problem of social conventions harder or easier than it was in colonial days? Why?

What is the purpose of social conventions?

What if any bearing have the foregoing on the problem of teaching social conventions in our schools?

IV

What do you understand by personality?

Is there any difference between personality and the real self?

What is self expression?

Name as many ways as you can by which an individual expresses his personality.

What is the first and most important essential in self expression? (Right self). Second? (*Honest* expression).

Does our regard for others affect our self expression?

What then is the great motive power behind self expression?

Who is to be considered by self expression $\begin{cases}\text{Society?}\\\text{Friends?}\\\text{Self?}\end{cases}$

Does the expression "what you buy you produce," apply to self expression? How?

V

(1) "How far is dress significant as a reflection of personal ideals? Of self respect?"

(2) Do you think the majority of the teachers you know dress appropriately and in good taste?

(3) What does good taste in dress mean?

What rules should guide a woman in matters of dress as regards: (a) Ethics in dress—true courtesy? (b) Conventional courtesy? Appropriate to the occasion, etc.? (c) Fashion, quality, etc.?

Why is women's dress often said to be a source of temptation to men? When is dress 'suggestive'? What is appropriate dressing?

Are you in favor of standardizing woman's dress? Give your reasons for or against.

Do you think fashions refine taste? Deprave it? What decides?

Who are responsible for fashion absurdities?

Which do we imitate in our dress, our ancestors or our wealthy associates? What is the effect upon a democratic society? Upon the propriety of dress today? Do these have any significance for the teacher? How?

VI

A lesson on the general care of the body, grooming, health, bearing, etc.—developed similarly and with the same general thought in view as expressed in V.

VII

What are some of the characteristics that make a person agreeable and pleasant to live and work with?

Is it essential that a teacher should have these characteristics? Why?

What are some of the characteristics that make a person unpleasant to live with?

What do you think would be the effect upon a constant fault finder if she should adopt the habit of asking herself such questions as "Is it necessary?" "Is it true?" etc.?

What are some of the causes of fretfulness, nagging, grumbling, etc.? Suggest remedies for.

Is the fact that it is "bad form" to display temper and other unpleasant characteristics the only reason for not doing it? Why is it "bad form?" Should people never be angry? Is there a place for "righteous anger?"

VIII

Had it ever occurred to you that every individual is either a safe or a dangerous element of society?

Do you think it would reduce the number of unsafe members of society if boys and girls were led earlier in life to adopt a philosophy of life?

In its simplest terms what is a philosophy of life?

Do you think it would help to ask them what they expect to be?—i. e., to lead them to think about what they are going to do with their lives and to see how their early habits will help or hinder?

Discuss: Gossip, slang, scandal, questionable stories, swearing. Base your discussion on sound reasoning, not on sentimental or merely conventional reasons.

"Almost daily you are judged by your conversation. Every time you speak some one sees the true you, and gives you a place in his estimation. Your way of expressing yourself is an advertisement of you." Do you believe this? Is it worth considering?

Discuss: Sincerity, integrity, positive character, courage, wisdom in friendships (1 with women; 2 with men), and religion as regards their making a person a desirable element of society.

IX

What are the two factors necessary in the conventional expression of courtesy?

1. Knowledge of the laws of social usage.
2. Ability or practice in putting them into use.

How could any one become socially efficient without social practice?

Justify the idea that the school should provide for the social as well as the intellectual development of the pupils.

Suggest ways and means by which a school can give instruction and practice in social usage.

Examine, "*Good Manners and Right Conduct.*" Bulletin No. 47, Manila Bureau of Education, 1913.

What do you think of it as a plan for teaching manners and conduct? Do you think a similar plan would work in our schools?

Suggest all the ways and means you can think of for improving manners and the general social life of our school.

Suggest some specific problems you would like to make a study of.

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Including Teacher Training

ONE STEP TOWARD A SCIENTIFIC METHOD IN THE DISTRIBUTION OF SCHOOL FUNDS

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Four factors determine the status of education in any system of schools. These are (1) the general level of educational standards common in the region in question, (2) the ambitions and alertness of the leaders of the community, (3) the number of children to be educated, and (4) the amount of taxes that the people can afford to levy. If, as in the mountain sections of the South, the general level of education is low, the leaders do not know what first class schools are, the number of children is relatively large, and the taxable wealth very little, we may justly expect short school terms, poorly trained teachers, meagre equipment and few improvements. On the other hand, in the restricted residential municipalities adjacent to many of our large cities, where there are already high educational standards, where the leaders are trained and alert, where the children are relatively few and the wealth great, we may justly expect splendid schools. Variation in any one of the four factors should affect the result.

When the school district had much power and the local authorities were supreme we found the widest variations in educational conditions. It was important that wider units of administration should be developed. This was difficult because of the fact that when our government took its form, education was considered a local matter, no mention being made of it either in our national constitution or in the constitutions of eight of the first sixteen states. But gradually the states, bit by bit, began to take on power over the schools, increasing the school term, certifying the teachers, determining the course of study, securing new equipment, providing transportation and other reforms of a similar sort. Most of this power came from the distribution of state money, coming either from the interest on school funds which many of the states have, or else from direct appropriations by the legislatures. It was found that the best method for securing statewide educational advance was to appropriate state funds for a special purpose. Thus money paid in proportion to the aggregate days attended helped to enforce the compulsory education law and increase the school term; money paid at a certain rate per teacher served to increase school facilities; money paid at a certain rate for each new building brought new schools. So we find special appropriations for rural schools, for nurses, for medical inspection, for standard high schools, for proper equipment, for consolidation, for teacher training, for fire protection, for transportation, and many other specific purposes. Most of the money distributed by the states, where it has any educational purpose at all, is designed to stimulate effort; it is not as a rule designed to pay for the cost of the improvement. Only a small part of the cost of education comes from state funds or statewide taxation, only 17 per cent on the average, and only seven states, Alabama, Georgia, Kentucky, Maine, Mississippi, New Jersey and Texas, paying more than 40 per cent.[1]

We find in most of the states today the principle of state control to be well established. Through the power of approval and the power of statutory regulation, statewide educational standards may be maintained. In many states it is no longer necessary to attach an appropriation clause to a statute in order that it may be enforced; nor do all advocates of state control need to hide behind state distribution of funds in order to accomplish their purpose. The first factor, the general level of educational standards, may today be improved by legislation.

Another purpose of state distribution of funds has been to equalize the burdens of school support to meet the third and fourth factors. This was one purpose of the county unit. In some states special equalization funds have been set aside to aid poor counties, special sums have been appropriated to aid poor districts, such as mining communities; and in Massachusetts part of the state aid is given in inverse proportion to the valuations reported. If state control in many states is quite well assured, and the use of state funds to establish it is not needed so much now as formerly, it is logical to suppose that the future value of state aid will be to equalize burdens. We know that the widest variations exist. We need much investigation and research.

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[1] U. S. Bureau of Education, Bul. No. 11, 1920. P. 58.

For example, in a study recently made of the relations of tax burden and school support in fifty-five Iowa cities,[3] very wide variations in the ability to pay for an education were found to exist. For each city, accurate data were secured as to the market value of the taxable property of the district, based upon transfers upon the market. It was found that the burden of local school support varied from $15.09 per $1000 of real wealth in one city to $1.38 per $1000 of real wealth in another. At the same time it was found that the amount raised by local taxation per pupil enrolled varied from $125.80 in one city to $37.95 in another. Nor were the cities that taxed themselves the most heavily the ones that raised the most per pupil enrolled. This is shown on the following diagram:

The columns running from upper right to lower left, marked A, B, C and D, include the cities in proportion to the amount raised per pupil enrolled, going from relatively good school support in column A to relatively poor school support in column D, divided on the basis of their rank in the original tables. The columns running from lower right to upper left, numbered I, II, III, and IV, include the cities in proportion to the burden of school taxation, column I including the cities whose tax burden is relatively light and column IV those whose burden is relatively heavy. The cities high up on the diagram have relatively light tax burdens and relatively much money per pupil; those low down have the situation reversed. The cities near the top have excellent opportunities for development; those low down have poor possibilities.

Another way of showing this same series of facts is the Index of Opportunity. We find that the median burden of school support for these cities is $5.445 per $1000 of real wealth. We find that the median amount raised per pupil is $68.25. Thus the typical city of this group studied is raising $68.25 per pupil at the rate of $5.445 per $1000 of real wealth. That means that if an Iowa city is to tax

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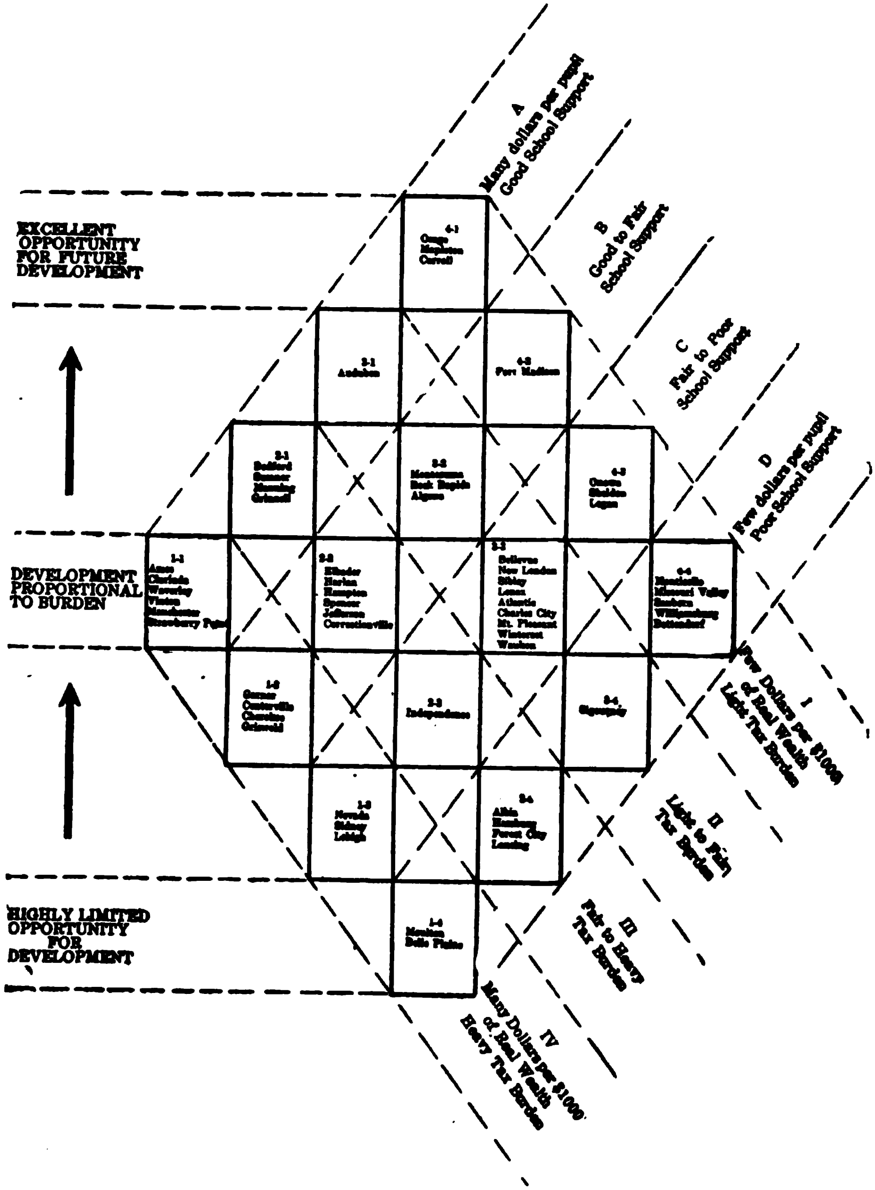
[3] Russell, *School Finance in Iowa Cities*. Iowa City, 1920. Pp. 22-35.


A
Many dollars per pupil
Good School Support
B
Good to Fair
School Support
C
Fair to Poor
School Support
D
Few dollars per pupil
Poor School Support
EXCELLENT OPPORTUNITY FOR FUTURE DEVELOPMENT
DEVELOPMENT PROPORTIONAL TO BURDEN
HIGHLY LIMITED OPPORTUNITY FOR DEVELOPMENT
4-1
Osage
Mapleton
Carroll
3-1
Audubon
4-2
Fort Madison
2-1
Bedford
Sumner
Manning
Grinnell
3-2
Montezuma
Rock Rapids
Algona
4-3
Osceola
Sheldon
Logan
1-1
Ames
Clarinda
Waverly
Vinton
Manchester
Strawberry Point
2-2
Elkader
Harlan
Hampton
Spencer
Jefferson
Correctionville
3-3
Bellevue
New London
Sibley
Lenox
Atlantic
Charles City
Mt. Pleasant
Winterset
Waukon
4-4
Monticello
Missouri Valley
Sanborn
Williamsburg
Bettendorf
1-2
Garner
Centerville
Cherokee
Griswold
2-3
Independence
3-4
Sigourney
1-3
Nevada
Sidney
Lehigh
2-4
Albia
Hamburg
Forest City
Lansing
1-4
Moulton
Belle Plaine
I
Few Dollars per $1000
of Real Wealth
Light Tax Burden
II
Light to Fair
Tax Burden
III
Fair to Heavy
Tax Burden
IV
Many Dollars per $1000
of Real Wealth
Heavy Tax Burden

itself the median amount required to send one child to school for one year at the median rate, it will require a unit of real wealth amounting to $12,534.00.

If, then, we assume as the numerator of a fraction the amount of money raised per pupil for each of these cities, and as the denominator the amount of money raised for school purposes per $12,534 of real wealth, we have a ratio which yields a measure of the opportunity of a community to improve educationally. Thus a ratio of 1.00 (1/1) means that a community is raising an amount for schools with about the same burden of taxation as is typical. If the ratio is 2.00 (2/1) the school system is raising its school funds without as great burden as is usual. If, on the other hand, the ratio is .50 (1/2) the burden of taxation is much heavier than usual. If the ratio is greater than unity, the educational opportunity of the community increases. As it is less than unity, the educational opportunity decreases. The former schools are bearing their educational burdens easily. Improvement can be secured with ease. The latter schools have a more difficult task. Possibly they should receive state aid.

The reader must remember that in a ratio, there is a figure between unity and zero corresponding to every figure between unity and infinity. Thus .50 is just as far from 1.00 as is 2.00, .25 and 4.00, .33 and 3, .80 and 1.25 representing equal distances on either side of unity. To make clear the relative distance from unity, the ratios below unity are given with their reciprocals.

The *Index of Opportunity* for each of the fifty-six cities follows:

Logan	2.66	Elkader	1.23	Fort Madison	.93 (1.07)
Bettendorf	2.52	Winterset	1.20	Clarinda	.91 (1.10)
Osage	2.19	Vinton	1.20	Atlantic	.87 (1.15)
Mapleton	2.03	Manning	1.19	Sigourney	.87 (1.15)
Carroll	1.89	Jefferson	1.17	Nevada	.86 (1.16)
Missouri Valley	1.75	Algona	1.17	Correctionville	.82 (1.22)
Sheldon	1.70	Manchester	1.13	Forest City	.80 (1.25)
Rock Rapids	1.54	Harlan	1.11	Griswold	.79 (1.27)
Bellevue	1.53	Lenox	1.11	Grinnell	.73 (1.37)
Williamsburg	1.48	New London	1.10	Sidney	.64 (1.64)
Monticello	1.46	Spencer	1.09	Charles City	.61 (1.64)
Sanborn	1.43	Sibley	1.08	Lansing	.60 (1.67)
Bedford	1.37	Mt. Pleasant	1.07	Belle Plaine	.54 (1.85)
Audubon	1.35	Ames	1.06	Lehigh	.50 (2.00)
Montezuma	1.35	Hampton	1.03	Albia	.46 (2.18)
Onawa	1.33	Cherokee	1.02	Centerville	.41 (2.44)
Waukon	1.32	Waverley	.99 (1.01)	Garner	.38 (2.63)
Sumner	1.28	Independence	.98 (1.02)	Moulton	.30 (3.33)
Strawberry Point	1.28				

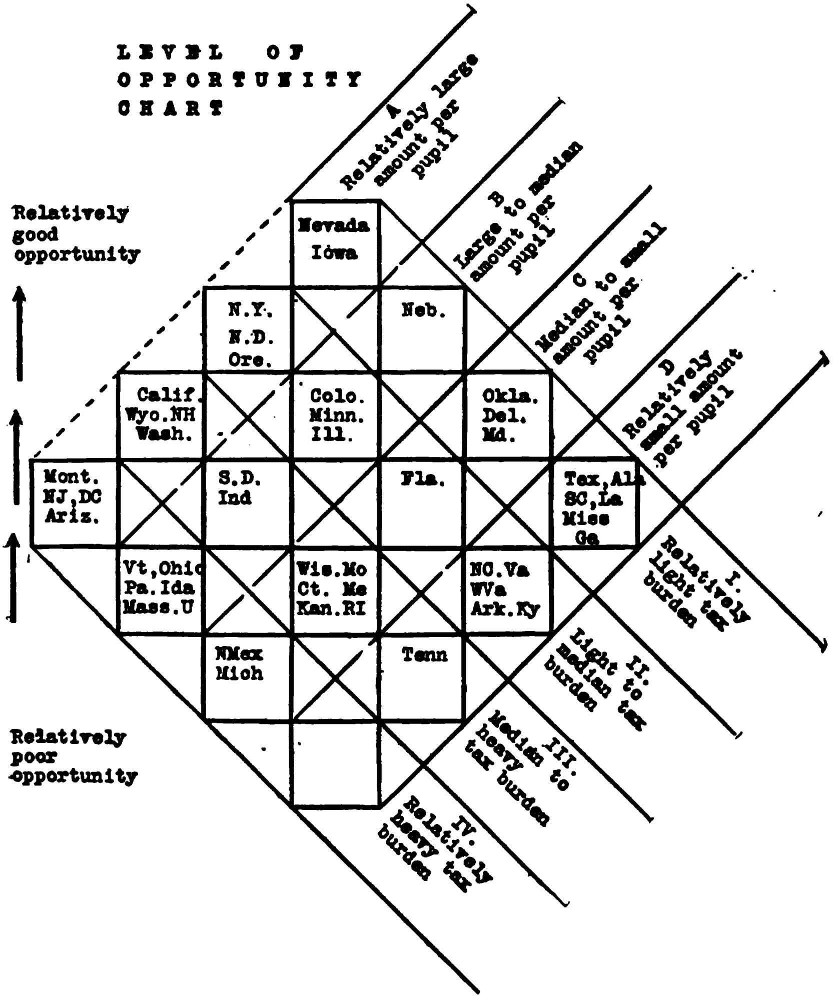
These conditions are found in Iowa, a state that one would suppose to be as little varied as any one in the union. There are few large cities. There are almost no poor districts. Farm land sells for about as much in one place as another. If variations in actual ability to pay for an education are found in a state like this, think what they must be in Tennessee, or Maine, or Texas.

The districts that have a high index may easily improve. The districts that have a low index are struggling to get along. If state aid for improvements is offered, they can hardly afford to accept it. If we believe in equal opportunity, if as Lincoln said, we hope for the time when "every child will have an unfettered start and an equal chance in the race of life," how can this be attained without a system of taxation statewide in scope, falling with equal burden upon every taxpayer?

It is proper to extend this inquiry to the nation as a whole. Applying the same method as used in Iowa, to the states of the union, we find just as wide variation from state to state. Taking the data on actual valuations of wealth for 1912, the latest available, the amounts raised by taxation and appropriation in 1918, the amounts expended on public elementary and secondary schools for 1918, and the number of pupils enrolled in 1918, we find wide variations. The burdens of taxation varied from $7.40 per $1000 of real wealth in Idaho to $1.43 in Nevada; the amounts expended per pupil from $59.60 in Montana to $7.85 in Mississippi. Nor did the states burdening themselves most heavily expend the most for schools. The *level of opportunity* chart and the Index of Opportunity for these states follow:

INDEX OF OPPORTUNITY.

Nevada	4.25
Iowa	2.41
North Dakota	1.61
New York	1.60
Oregon	1.57
California	1.54
Nebraska	1.49
Illinois	1.41
Minnesota	1.37
Washington	1.36
Wyoming	1.33
Colorado	1.31
New Hampshire	1.25
Oklahoma	1.17
South Dakota	1.17
Montana	1.10
Ohio	1.06
Dist. of Columbia	1.04
Connecticut	1.02
New Jersey	1.02
Wisconsin	1.02
Massachusetts	1.01
Indiana	1.01
Rhode Island	1.00
Michigan	.99
Vermont	.98
Delaware	.95
Arizona	.95
Texas	.93
Kansas	.93
Maine	.92
Maryland	.87
Missouri	.83
Pennsylvania	.80
Idaho	.70
New Mexico	.69
Louisiana	.69
Utah	.68
West Virginia	.65
Florida	.64
Kentucky	.54
Virginia	.52
South Carolina	.52
Georgia	.44
Alabama	.43
Arkansas	.38
Mississippi	.33
Tennessee	.32
North Carolina	.31


LEVEL OF OPPORTUNITY CHART
Relatively good opportunity
Relatively poor opportunity
A Relatively large amount per pupil
B Large to median amount per pupil
C Median to small amount per pupil
D Relatively small amount per pupil
I. Relatively light tax burden
II. Light to median tax burden
III. Median to heavy tax burden
IV. Relatively heavy tax burden
Nevada Iowa
N.Y. N.D. Ore.
Neb.
Calif. Wyo.NH Wash.
Colo. Minn. Ill.
Okla. Del. Md.
Mont. NJ,DC Ariz.
S.D. Ind
Fla.
Tex,Al SC,La Miss Ga
Vt,Ohic Pa.Ida Mass.U
Wis.Mo Ct. Me Kan.RI
NC.Va WVa Ark.Ky
NMex Mich
Tenn

The Smith-Towner Bill proposes to distribute large sums of money to the states in proportion to the size of the educational task which it wishes to see accomplished. It does not propose to pay the entire cost, but rather a sum sufficient to stimulate the states to do the work. This is proper. Until the principle of national control has become established, we cannot expect more. Some time in the future we may expect to see sums distributed to equalize the burden of education in the various states. There is nothing fair, nothing healthy to the life of the nation, when Nevada by taxing itself as heavily as Tennessee will raise ten times as much per pupil, and New York five times.

In the meantime, our problem is one of state equalization of burden. Educational costs are mounting. Some districts are paying far more than they can afford, taxing themselves for schools out of proportion to other proper municipal expenditures, in some cases taxing themselves out of existence. Many school systems are practically bankrupt, running on borrowed money. What of the future? Are we to reduce our expenditures? Are we to limit our education? One great step toward a solution will be the use of wider taxing areas to equalize burden, which for the present merely means a new type of state aid.

If this is the case we are quite unprepared. We do not know enough. So long as we were distributing state funds for specific educational purposes the aim was plain and the method simple. But distribution to equalize burden up to the present has been almost pure guess. We need to know for every state in the union the following facts:

(1) The taxable wealth of each district.
(2) The market value of this.
(3) Hidden sources of school support.
(4) Probable school expenditures.
(5) The relative cost of giving approximately equal educational opportunity to pupils in cities, country, mining districts, industrial centers, sparsely settled sections, etc.
(6) Norms for expenditure of school money for various major items.

These data need to be up to date and accurately gathered. All too often our data on school finance are out of date when presented, just as those in this paper are.

To accomplish this we need a large organization, working in every state, gathering data continuously. The railroads do this now. All should work on a uniform basis so far as possible, and through some central clearing-house make the results available to all.

The purpose of this paper has been to show that the distribution of school funds for specific purposes was necessary to establish state control. Once established we may use it for other purposes. We are now facing a financial crisis. The only probable solution is the establishment of wider taxing areas or state aid. We are now helpless as to the establishment of the latter, because we do not know enough. We need at once a national effort directed to the gathering of these data, directed with one purpose, carried out with one method, the results of which should speedily and continuously be available to all. Without it we shall find ourselves unprepared to solve the great problems of school support which are confronting us now and which will grow more difficult from year to year.

THE PLACE OF OBSERVATION IN PRACTICE-TEACHING COURSES[1]

HERBERT PATTERSON,
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In recent years there has been an increasing emphasis placed upon practice-teaching courses in our normal schools and college departments of education. Few thoughtful trainers of teachers now maintain that knowledge of subject matter alone is necessary to make a successful teacher. Very generally is the idea accepted that a certain number of courses in "education" should be included in the requirements for a teacher's certificate. While there is still much non-functioning material in our courses in "education," more and more stress is being laid upon the technique of the teaching, and practical and vocational ideals are fast overshadowing the theoretical and cultural approaches of a decade ago.

"Learn to do by doing" is generally accepted as sound doctrine whether the task be to become a swimmer or a teacher. Participation in the actual work of teaching is, of course, an essential part of any adequate practice-teaching course. It must never be forgotten, however, that observation should play an important role in our technical teacher-training.

When should observation work be done? The answer that has generally been given to this question is that observation should precede actual teaching. The reason for this is obvious. Imitation is one of the oldest and most fundamental of the methods of learning how to do anything. The young learner, by watching the skilful teacher, builds imagery in the light of which his own later attempts at teaching are judged, be such judgment conscious or subconscious. The influence of example has long been recognized as more powerful than that of precept. Fortunate, indeed, is the young man who grows up in the home of a noble father, and equally fortunate that teacher whose training has included the observation of the work of at least one great teacher.

To be sure, one could learn to teach, after a fashion, at least, by the trial and error method. Many teachers have learned by this method. After having received their own schooling at the hands of very mediocre teachers, they themselves have started to teach. Making mistake after mistake, and slowly learning, in the sad school of experience, what not to do, they have attained a certain amount of teaching skill. There are some educators who believe that this trial and error method is superior to the imitation method. They argue that actual teaching should be begun at once by the one in training. Throw a man into deep water, and he will soon learn to swim. Help the young teacher to recognize and correct his mistakes, they say, and gradually he will perfect himself in the art.

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[1] Paper read at the annual session of the Oklahoma Education Association, Oklahoma City, February 11, 1921.

While there is some truth in this contention, it must always be remembered that the trial and error method of learning is the most wasteful of all methods. "Learn to do by doing" works much better if one knows exactly what it is he is trying to do. Observation should precede participation.

Probably the wisest placing of observation in our practice-teaching courses is that which alternates observation and actual teaching, a rather long period of observation preceding the first attempt at actual teaching. This arrangement retains most of the advantages of both the imitation and the trial and error methods while escaping their faults.

What should be observed? The best teaching possible of the subjects in which the prospective teacher is specializing. Teaching, like other vocations, is fast becoming specialized and the general teacher is less and less in demand. There are special methods in the high school subjects quite as truly as in the studies of the elementary curriculum. While a prospective teacher of high school mathematics might receive some help by observing good teaching of English, he would be helped much more by observing good teaching of mathematics. Theoretically, there is quite general agreement upon this principle. No longer will we champion the cause of "faculty psychology," "formal discipline," and "transfer of training" against the modern insistence upon specialized reactions, habits, and ideals. And yet, because of administrative difficulties, too often observation and even actual teaching are done in subjects other than the student's specialties. Those of us who believe in technical teacher-training, should take more seriously the implications of the modern psychology which we teach.

I have said that the "best teaching possible" should be observed. Here again we are in agreement when the matter is stated as a theory. In actual practice, however, can we honestly say that our prospective teachers do observe "the best teaching"? Are our "model teachers" the very best we can secure? Is it not true that the higher salaries paid for specialized teaching in our city schools make it possible for such school systems to attract the finest teachers? As long as this condition continues to exist, the "model teachers" in our training schools will be mediocre at best. When, however, there is recognized the importance of placing our prospective teachers in an environment of really great teaching, and sufficient funds are forthcoming to put into effect this ideal, then—and not until then—will the observation method of learning how to teach come into its own. My faith in the future of American public education compels me to prophesy that that day will come,—and perhaps more speedily than some of us dream.

Who are the best teachers? How can they be found? Even if we had the necessary money, could we select them? My answer is that rapid progress is being made in the rating of teaching ability and the best teachers of a given subject or grade can be known.[2] Standardized educational tests together with mental tests now furnish the means whereby the ability to teach subject matter can be measured. Other things being equal, that teacher is best who can teach subject matter with most accuracy and speed. A good teacher of spelling would turn out a class of pupils who could actually spell.

I have said, "Other things being equal"; but other things are not equal. Along with technique there is teacher-personality. Here, too, interesting progress is being made in analyzing the important traits a great teacher should possess. Several excellent scorecards for teacher-personality are now available. A writer in a recent issue of the Atlantic Monthly emphasizes a threefold test of a great teacher. A great teacher, he says, must possess faith in the subject he teaches, faith in his students, and faith in himself as a teacher. Whether this analysis or some other be preferred, certain it is that we are better able today than ever before to select great teachers.

Is the observation method of learning how to do anything practiced in vocations other than teaching? Yes, indeed. How does a prospective singer become a grand opera artist? While, to be sure, he learns to sing by singing, he also learns by hearing great singing, by associating with great singers, by trying to imitate sounds produced by a singer greater than himself. He has a master.

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[2] See Writer's article: How Can the Ability of Student-Teachers Be Measured? Educational Administration and Supervision, April, 1920, p. 215.

So likewise it is with the surgeon. He learns to cut by cutting, to be sure, but his practice cutting is preceded by much observation of the work of some master surgeon. The apprenticeship method is old, but it is still the greatest of all methods of learning a vocation. In apprenticeship, observation precedes participation, and is an important part of the learning process.

How are observations to be made? There are two fundamental divisions into which observations are naturally classified. They are the desirable, and the undesirable qualities and methods. Prospective teachers should try to analyze the teaching they are observing, and determine wherein lie its strong and its weak features. This is a simple classification, to be sure, but it is the most natural one and probably the most helpful.

Here, once again, is seen the importance of having excellent "model teachers" in order that the strong qualities may outnumber the weak ones. A really great teacher usually will be willing to have his work criticized adversely, but the mediocre teacher can not endure such an ordeal. So it sometimes happens that the prospective teacher is unable to speak frankly regarding the teaching observed lest he offend the "model teacher." As soon as this lack of frankness between the "model teacher" and the prospective teacher appears, the real values of the observation method are seriously reduced.

How many should observe at the same time? While the number of observers might vary to some extent with the size of the class and the type of work being observed, the ideal number generally is two. A larger number of observers will tend to disturb the psychological state of the class. There is always the danger that the presence of even one observer might do this, especially if the "model teacher" is at all inefficient. It is also true that more than two observers might tend to embarrass the "model teacher" as well as the students.

If, however, there are two observers, it is possible for them to compare their observations and mutual benefit may thereby result. Also, it is possible for there to exist the stimulus of rivalry between the two observers, and thus the work may be both more interesting and beneficial. The conferences after the teaching will then be among the three—the "model teacher" and the two observers. This, too, has its values, since the observers will tend to be more frank with their criticisms if there are two of them.

Where should the observation work be located? While the expression "model teacher" might seem to indicate that this work ought to be done in a special "model school," my conviction is that it may best be done in the regular public school system. To be sure, the ideal method would be to have both a "model school" and a public school system for observation use. When, however, it is necessary to choose between them, my choice would be the regular public school system. By subsidizing the system in whole or in part, it would be possible to secure excellent "model teachers." It would avoid friction between the "model school" and the public school system, both being strengthened by their union rather than weakened by separation.

The difficulty with many "model schools" is that the situations there presented are not typical of the future situations in which the observing teacher will work. Often the enrollments are small, and the students selected and grouped according to other principles than those prevailing in our public school systems. Modern psychology emphasizes the importance of specialized habits and ideals, minimizing the value of transferred general training. Our own preparation of teachers should be in accord with the psychology taught in our classrooms and laboratories.

To be sure, there are administrative problems connected with maintaining observation work in the public school system. They are not, however, of sufficient difficulty to make the plan impossible.

While there are numerous lesser questions, these to me are among the important problems concerning the place of observation in practice-teaching courses. Some of the ideals here voiced have been realized in the training of elementary school teachers. Much, however, remains to be done in our training of high school teachers.

THE NATION'S DEBT TO THE NORMAL SCHOOLS[1]

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Any sincere effort to evaluate the service of the American normal school to the Nation must take account of the conditions under which this institution first developed. It came into being in answer to the demand for universal common-school education. It was part and parcel of the movement toward democracy at the time when the dependence of democracy upon universal education was just beginning to be clearly grasped. It came particularly when the futility of providing universal education without first providing competent and devoted teachers had become painfully apparent. The first normal schools in a very real sense were missionary schools. They had their roots in the real needs of the people,—of the great masses of the "common people," whom, Lincoln said, the Lord must have loved because he made so many of them. The normal schools were democratic in their origin and democratic to the core—and democratic they have always remained.

Our attention is often called to the defects and shortcomings of our present-day public schools. Not often do we stop to think how stupendous a task it is to bring the rudiments of learning to every boy and girl in the land, nor for how relatively short a time this task has been attempted. The universal elementary school is essentially the product of the nineteenth century. Beginnings there were much earlier, but these were only beginnings. The greatest progress in Colonial times was made in New England, but even here it was only a crude beginning of mass education. There were academies and colleges scattered through the Colonies, but these in general were distinctly for the classes and not for the masses.

Until well on in the nineteenth century, there were two distinct types of schools even in the states that did the most for education. The private and endowed schools and colleges served those who could afford their advantages. Separate from them were the rude forerunners of our present school system,—the public or common schools.

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[1] Address at a dinner given by the National Council of Normal-School Presidents and Principals to members of Congress, Feb. 24, 1921.

Even as schools for beginners, these were often shunned by parents who could afford the private school or the private teacher. The stigma of poverty and charity in many cases attached to them. Indeed, they were often known as pauper schools or ragged schools. Between them and the higher institutions there was no connection. The grading system was unknown. The public high school was still far in the future. Reading, writing, and a little arithmetic made up the pabulum to which the children were limited. The teachers frequently were of the itinerant type of schoolmaster,—men themselves of very rudimentary learning; sometimes miserable failures even in the unskilled labor of the farm or the shop; bitten deep with the bug of innate laziness: all too often besotted with chronic drunkenness. The textbooks were few in number and pitiable in their limitations even when measured by the standards of that early day. The buildings at best were mere shacks, the equipment a few rude benches—and a plentiful supply of birches.

Such were the beginnings of our public-school system in the first quarter of the nineteenth century. Such indeed were the beginnings of mass education, of democratic education, almost everywhere.

From these crude beginnings to our present public-school system seems to be a far cry—but it is the achievement of less than a century. Not out of the private schools and academies and colleges of these early days, but out of the ragged common school has grown what may in time be the finest development in our American life. We have indeed the promise of it now: the pattern and the form and in some ways the substance and the fulfillment,—a great and pervasive system of public education, open to all and free to all,—the true spirit of which Huxley caught and crystallized in his famous phrase, "An educational ladder with its base in the gutter and its tip in the University." A short century ago only the first segment of that ladder had been constructed: it rested even then in the gutter; but its tip was very far from the University. But there were men who saw beyond the gutter; there were forces among the common people themselves that impelled them to look upward; and the ladder grew.

It is not my purpose to tell the story of that growth. Nor could I tell it in the way that it should be told. Some day it will be recounted as one of the great chronicles of our people—as one of the epics of American democracy; comparable, I am sure, to the greatest of the other epics,—the epic of the frontier and the gradual conquest of the wilderness. And the two are not without their parallels. For if the pioneers of the great West toiled on the physical frontier of democracy, the schoolmaster and the schoolmistress toiled on the spiritual frontier. The conquest of a material wilderness was the achievement of the one; the conquest of a spiritual wilderness the achievement of the other. The work of the one is now all but finished; but the work of the other has only just begun.

When the epic of this growth has been written, we may be very sure that the American normal school will have a place of high honor. It was in 1839 that the first normal school was established in Massachusetts. With an appropriateness that may not have been fully conscious to its founders, it was located at Lexington. In the same year another Massachusetts school was established and in the following year a third,—the famous school at Bridgewater. Other states followed quickly and by the close of the second quarter of the nineteenth century, the American normal school was an established institution.

And by this time, too, the new leaven had begun to work a miracle of transformation in American education. Stalwart men had been back of the movement which resulted in the normal schools,—men like Horace Mann and James G. Carter and Henry Barnard,—the Daniel Boones and Simon Kentons and Davy Crocketts of the educational frontier. And their task, in many ways, was no less arduous than that of the pathfinders of the forests and the plains. If they did not have the stubborn forces of nature to combat, they had something that was equally stubborn,—the opposition of conservative classes entrenched behind vested privilege, and the inert apathy of the masses of the people themselves. Indeed, the pioneers of the West had at least one real advantage. They could "go after" the wilderness with an axe. Much as the educational pioneers might have longed on occasion to use this effective instrument of civilization, they were confined to other methods—to argument, and persuasion, and the slow but ultimately certain influence of fact and reason. Little by little the sources of opposition were broken down; little by little the people were aroused to a new sense of responsibility for their children.

It was a hard uphill fight, exacting from those who were engaged in it a full measure of heroic devotion. They were charged with attempting to pauperize the people;—with a conspiracy to bleed the rich for the sake of the poor—if they had had our current terminology, they would have been accused, I suppose, of having "socialistic" leanings; and finally the bedevilment of centralization and autocracy was seen in all their proposals. Often the opposition was open and sincere; but often, too, it was the hidden and insincere—the antagonism of those who had something to lose if the masses of the people were educated.

It was the spirit of such men as Horace Mann and Carter and Barnard that the new normal schools reflected,—the spirit of consecrated devotion to a great cause. The teachers who went out from these schools carried this spirit with them, and, as I have said, the leaven worked quickly and effectively. Before 1850, more than half of the private schools in Massachusetts had gone out of business, the wages of public-school teachers had been increased by more than fifty per cent, two million dollars had been spent on public-school buildings, and a full month had been added to the average school year. For the first time in history, a democratic commonwealth had a real system of public education.

From the Massachusetts normal schools, and especially from Bridgewater, men and women fired with the zeal of the true missionary went out through the West carrying with them the great message. They went to Ohio, to Michigan, to Indiana. In the early fifties, Edwards, Hewitt, and Metcalf went from Bridgewater to the newly established State Normal University of Illinois, and their names are written large in the educational history of that great state. A group went South and, as teachers in what is now the Winthrop College of South Carolina, laid the early foundations of the profession of teaching in the Southern States. Through these and other of its devoted sons and daughters, Bridgewater has justly earned its fame as the Mother of American normal schools.

It was between 1840 and 1860 that the public-school systems of the Middle West were getting well started, and the normal schools had their part to play in starting them aright. In many ways, the situation was more favorable than in the Eastern States, for the far-sighted wisdom of the Federal government had set aside a section of land in each township of the Northwest Territory for the support of schools. Class distinctions, too, were less sharply drawn than in the East. The tide of population in sweeping over the mountains left many of its social prejudices behind, and pioneer life with its emphasis of individual initiatives and self-reliance wiped out most of those that survived the journey. It was a fertile soil for democracy and for the development of a public school that would reflect the democratic ideal. Here on the western plains the tradition of the ragged school and the pauper school was no longer a handicap to public education. A new tradition took its place,—the tradition of a universal school for "all the children of all the people" with no stigma of charity attaching to its beneficence. Another long step was taken on the road to democracy.

And yet much of the work that Horace Mann and Carter and Barnard had been forced to do in New England, some one had to repeat in Ohio, in Indiana, in Illinois, and in Michigan. The people had to be aroused to the problem. The battle for school taxation had to be fought and refought and fought again. The great stretches of open country made the rural-school problem one of tremendous difficulty. Some of these struggles came before the normal schools penetrated to the Middle West, but there were enough perplexing problems for them to face when they did come. Toward their solution in every state the normal-school teachers made notable contributions, and the students trained in the schools went forth bravely and toiled valiantly. Never numerous enough to fill even a fraction of the public-school posts, they still served in a very real sense to leaven the lump. They have been and they are today the stabilizing elements in the public-school service—a coterie of devoted souls who form the backbone of the teaching profession in the United States.

But the normal schools have been something more than bearers of the evangel of universal common-school education. Even in their early days, they were centers of study and experimentation for the improvement of teaching. Through them very largely the work of the educational reformers was made effective on a wide scale. The schools of a century ago and even of a half-century ago were pretty dreary places. Lessons were learned by rote; often the driving motive was the fear of the rod. Words were memorized irrespective of their meanings. All of the normal activities of childhood were cramped and repressed. The dunce cap, supposed to be a badge of indolence, was often worn thin by hapless and helpless children whose only crime was that they had been "born short." Much of this is past. We may find fault with our schools and our teachers today, but it is well to know that foreign students of education who visit them are a unit in declaring that the American public school is the happiest school in the world.

If you ask what has brought about this transformation I can tell you that the American normal school has been the most important factor in the change. It was the Swiss schoolmaster, Pestalozzi, who first developed the methods of objective teaching that were ultimately to make the memorizing of meaningless words a relic of educational barbarism. It was the Oswego Normal School in New York State under the leadership of Edward A. Sheldon that introduced the humane and intelligent spirit of Pestalozzi to American schools. During the sixties and seventies there spread from Oswego as a center one of the most remarkable waves of educational reform that has ever swept the country. It was Herbart who proclaimed on the basis of sound theory a workable plan for making school tasks interesting instead of irksome. It was students from the Illinois Normal University,—especially De Garmo and the McMurrys,—who went to Europe and brought back the message of Herbart. It was Francis W. Parker of the Cook County Normal School in Illinois who went up and down the country in the eighties and the nineties showing the absurdity of building education around anything less vital and less important than the actual living child himself.

If the schooling of your children has been more humanely governed, more intelligently directed, more mindful of children's needs and children's capacities than was your own schooling, you have the American normal school to thank in large part for the fact. If your own schooling was better than that of your father and your grandfather, a share of your indebtedness accrues to the normal school.

I could recount other types of service that the normal schools have rendered to the Nation. I could tell something of the men that they sent into the Army during the Civil War and the Great War. I could remind you that the commander-in-chief of the American forces in France was a product of the normal school at Kirksville, Missouri,—now one of the Missouri State Teachers colleges. I could tell you of the men who have gone from the normal schools into university work, there to win distinction as scholars or administrators. I could tell of those who have succeeded in business, in industry, in law, in medicine, and in politics.

The record is a proud one, but I prefer to emphasize what I may call the silent service of these schools,—the great work that they have done in the field that means most to the Nation's life and the Nation's growth, the field of common-school education. It is this silent service that does not get into the newspapers. Even the people who live in the towns where the normal schools are located may know nothing of it. It is an influence that spreads imperceptibly. It is not like the mountain torrent that foams noisily through the canyon—nor yet like the river that spreads itself proudly and complacently over the plains—nor yet like the rollers of the sea that thunder upon the beach. Rather it is like the deep subterranean waters that percolate through the rocks and through the soil—hidden from sight, and yet in their aggregate volume far surpassing the streams and the rivers and rivaling even the sea itself—silent and imperceptible, and yet the source of the living springs.

It is this type of deep but impalpable influence that truly educative forces always exert. It is this type of influence that the normal schools have exerted and are exerting. It is an influence that penetrates to the very heart of the Nation's life for the most fundamental and pervasive of all national influences are those that touch and quicken the Nation's children. Every factor that determines the texture of the lower schools is a force that must be reckoned with: the administrator who organizes their work; the framer of the course of study who determines what subjects are to be taught and learned; the textbook writer who builds out the framework with substance. But after all this has been counted up, it is the teacher who gives to it all the breath of life, and who, for this reason, wields the most potent and abiding influence. It is because the normal schools reach into the lower schools through the living personality of the teacher rather than through plans of organization or courses of study or printed books or other impersonal things—it is because of this that their influence is so profound.

If, with the meagre support that the normal schools have received, and if with the limitations of their service which have kept them from turning into the public schools more than a mere fraction of the teachers that these schools need,—if, with these handicaps, they have still wielded so profound and lasting an influence, one may well ask how much greater would be their service and their influence if they could be properly supported and given by the people the commission that they have so clearly earned—the commission, namely, of preparing all of the teachers who now enter the public-school service immature and unprepared.

We have traveled far since the first uncertain steps were taken toward universal education. The old ragged and pauper schools became the common schools. The common schools extended outward and upward; gradually they became the schools not only of the common people but of all the people. For a time, the private secondary schools with their aristocratic traditions checked the upward growth of the common schools,—but only for a time. The people's high school appeared—at first a puny institution dangling in the air, joined neither with the common school below nor with the college above. But had its roots in the same soil that had nourished the common school. Gradually it found its nexus with the common school which now by contrast became the elementary school. The grading system was developed and the first two segments of the educational ladder were complete. And then came further growth. The people's colleges appeared,—the state universities of the West and the land-grant colleges, both stimulated by generous Federal aid. These, too, were democratic in their origin. Soon they came to reach down to the high school, and the high school, reaching upward, touched the rungs of the third segment. The dream had come true— an educational ladder still with its base in the gutter but with its tip now in the university and in the professional school. Nothing like this had ever been achieved before in the whole history of mankind.

And as the different segments of the ladder have gradually taken their proper places, the whole scheme has appealed more and more to the imagination of the American people. They are proud of their schools,—and especially of their high schools and their public colleges. They have provided for these institutions magnificent buildings and costly equipment. They have sent their children to them in increasing numbers. The public high schools of our country now enroll more students than do the similar institutions of all other countries combined. Their enrollment since 1890 has grown ten times as fast as the general population. It has doubled within ten years. We are now probably sending more boys and girls to college than are all other countries combined. The enrollment in our colleges has practically doubled within five years. The ladder is more than an ornament. Every rung is crowded with ambitious youth.

But while our people are proud of their schools it is still the material side and to some extent the superficial side of the problem that has most strongly caught and held their attention. Buildings and equipment, laboratories, gymnasiums, and play grounds—all these are important—but they do not constitute a school. They are only the shell without the soul—and the soul of every real school is the living teacher.

To the most important part of the educational problem, then, the American people have given relatively the least attention. I have tried to tell you what the normal schools of the past accomplished; the signal service that they rendered to the Nation in spreading the gospel of universal education; the miracle of transformation that they wrought in the spirit and methods of the lower schools; the stabilizing elements that they alone have given to the teaching profession. And yet they have touched relatively few of the persons now engaged in the public-school service. All of the teachers that they have graduated in the eighty years of their existence would not be sufficient in number to provide every classroom today with a trained teacher. Of the three hundred thousand teachers in our rural and village schools, only a bare handful have come directly under the stimulus of the normal school. If you are seeking an explanation of the twenty-five per cent of "near illiteracy" found by the military draft, you will find it here. Three-fourths of our elementary-school teachers are classified as untrained. We may be proud of the educational ladder, but we have to confess that it wobbles in spots—and that some segments are hardly worth the climbing.

What the normal schools need,—what they richly deserve, what they have most assuredly earned,—is a type of public recognition and support that they have never received. And they have never received this recognition and support because, as I have said, their service has been a silent service. But I do not urge recognition and support for these institutions merely as a reward for their past achievements. I do not urge it merely in justice to normal-school teachers who are giving themselves without stint to a difficult and ill-rewarded service. I urge it primarily in justice to twenty million boys and girls who can profit by the teachers that these schools are competent to train as they can profit by no other advantage that we can give them. Society cannot guarantee to every boy and every girl a devoted and intelligent mother or a wise and provident father, but society *can* guarantee to every child a good school and a competent teacher. The first step in giving every boy and every girl a competent teacher is to extend and expand and strengthen the institutions that have already demonstrated beyond question their ability to furnish these desirable products. These institutions are the normal schools. They and they alone can make the educational ladder well worth climbing. They and they alone can put substance into the form and pattern. They and they alone can make our public-school system what many enthusiastic but misinformed citizens think that it is today,—the finest thing in American life.

A PROGRAM FOR THE TRAINING OF TEACHERS OF ENGLISH COMPOSITION FOR JUNIOR HIGH SCHOOLS

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I.

As a solution of some of the difficulties that the present course in English composition presents, it is proposed to separate the teaching of composition from the teaching of literature. There are naturally objections to this separation.

Those who oppose it contend that a teacher condemned to teach composition without the mitigations of literature will find the course unspeakably dull and dry, and therefore will refuse to undertake it. However, the teaching of composition need not be dull and dry if the teacher is properly trained to teach it. The problems of training pupils in right habits of thinking, the difficulties of mastering the technic of composition, are in themselves a challenge to an alert teacher who is interested in young people. There is also the additional opportunity of coming into close personal contact with young people, and of exploring their interests and their possibilities as revealed by them in spaking and writing. No other course offered by the school is richer in opportunities for personal contacts than the course in composition.

Other objectors quote the French practice and maintain that the excellence of French composition is due to the close correlation between the teaching of composition and that of literature. While there is no disputing the excellent quality of French instruction in the mother tongue, it by no means follows that this excellence is solely the result of basing composition upon the study of literature. The French tradition that exalts the language arts, the years of devotion to the study of language, not only in the primary schools and lycee but also in the normal schools and the colleges, the emphasis given to composition in the examinations, the careful and critical study of grammar, are in themselves sufficient to produce the high degree of excellence the French schools achieve, without connecting composition with literature to so great an extent as is the French practice. Indeed, this practice is not free from criticism in France itself. In recent years, M. Albalat has challenged the domination of the classics in the schools, and has urged a classification that would allow more freedom.

It is certainly not desirable to divorce the teaching of composition entirely from that of literature; but the practice in past years in American schools has been to base most of the compositions on literature, and that practice has led to barrenness in the teaching of composition. American teachers now generally believe that such a close correlation of the two subjects results in too much formality in pupils' expression and in the exclusion of vital interests of many young people who have something worth while to express, but who may not be greatly interested in literary themes. Instead of tying composition to literature, many thoughtful teachers advocate an approach to literature through composition. Dr. Charles Sears Baldwin believes that both the form and the style of literary composition is better appreciated after students have themselves attempted to do what the literary masters have succeeded in doing. Certainly the teaching of composition must be illuminated by examples of good writing, and must be directed to some extent by the use of models; but to limit composition to the imitation of the classics, and to base speaking and writing exclusively on literary subjects is no longer the practice among good American teachers.

The positive reasons for separating the teaching of composition and literature are: (1) The different technical skills required in teaching the two subjects; (2) the neglect of composition when the two are combined; (3) the scant attention paid to the practical aspects of composition.

(1) The promotion of thinking, which is the primary object of the teaching of composition, is not necessarily aligned with literature more than with history, economics, or mathematics; and the skill needed to help a pupil clear up his muddy thinking and express himself intelligibly in correct English is a special skill that may or may not belong to a devotee of literature.

(2) Lacking the skill necessary to the effective teaching of composition, the teacher who combines the two subjects naturally falls back upon the relatively easier task of interesting pupils in literature. The teacher himself very likely finds literature more interest-

ing, and in all probability will frankly say so. "Where the treasure is, there will the heart be also." A great many teachers of English, ardent lovers of literature longing to communicate their enthusiasm to their pupils, feel a certain impatience with the demands composition makes upon their time. The feeble attempts of pupils to express half-formulated thoughts seem to them much less important than the study of literary masterpieces. It is only human nature for teachers to sacrifice that which in the depths of their hearts they believe to be the less profitable.

(3) With this viewpoint it is often difficult for a teacher to give much attention to teaching what the workaday world demands of the schools. Letter forms, punctuation, spelling, and above all clearness and coherence of expression, are homely things upon which the world of affairs lays very great stress. An appreciation of Lamb's style, a knowledge of the laws of the sonnet, and an interest in the historical development of the drama do not necessarily contribute anything to the ability to teach the mechanics of speaking and writing. Indeed, it may be more difficult for a teacher well trained in literature to "come down" to the practical demands of everyday writing than for one who has had little or no literary education. This is not to institute any comparison between the relative values of literature and practical writing; there is no question in the mind of the writer that an appreciation of literature is a far more profitable thing than a knowledge of punctuation and the vagaries of English spelling; but, the question is, Why tie up these two unrelated subjects? Would not the specialist in literature do better work if relieved of the mechanical side of composition, and would not composition be better taught if placed in the hands of a teacher who has special training for that particular work?

Whether or not in the administrative scheme it is desirable to assign these two subjects to different teachers, it certainly is better from the logical standpoint to treat them separately in considering the preparation of teachers for composition. For this practical reason this paper will discuss only the training of teachers for English composition.

II.

So fundamentally is composition bound up with the thinking processes that it is essential for all students in normal schools to have at least one year of English composition, corresponding to English A required of college freshmen. This difference, however, should be made between this basic course in normal schools and English A of the colleges: The normal school course should be professionalized in that its relation to teaching should constantly be emphasized; not only its relation to the teaching of composition, but its relation to the teaching of science, history, literature, and the other subjects of the junior high school.

a. The proposal to devote a year to composition in the normal schools is in excess of the recommendations of the Carnegie Foundation in its preliminary report on normal school curricula. The single term of work in composition and the mechanics of writing proposed in that report is inadequate to do what the course in composition should be expected to do. In the first place, the prospective teacher surely needs as much training in the mother tongue as the prospective lawyer, doctor, or engineer. These professions require from one to three years of academic work as a preparation for professional studies, and a minimum of one year of college composition. It hardly seems reasonable that teachers should not be required to have as much training in composition as members of other professions. Again, the fact that English is poorly taught in the schools is an urgent reason why student teachers should have a better foundation and training for teaching English than the present corps of teachers has. Increasing the time devoted to English in the schools has not improved the teaching of English as greatly as we had hoped it would; but the reason is not far to seek. Of what avail is it to increase the time given to the teaching of English if that time is not used by teachers adequately trained to make the best use of it? A study of existing methods of teaching English shows only too well that our present body of teachers is not equipped to teach it as it should be taught. The remedy, then, must be in a better provision for the future. But if the Carnegie Foundation report is accepted as an ideal standard for normal schools, the three months' term in English composition is all the teacher of the primary grades, the intermediate grades, and the teachers of science and mathematics in the upper grades will have. If we compare this low requirement with the requirement made by the French system, we see that the primary teacher under the Carnegie Foundation proposal will have just one-ninth the amount of training in the mother tongue that the primary teacher of a French school has. In other words, under the

French system, the programmes of study provide for three full years of the study of French. In the first year five hours a week, and in the second and third years, four hours a week are devoted to "Reading and recitation of the classics, grammar and grammatical exercises, and exercises in composition." When we recall that this is the requirement for the lowest class of French teachers, and that teachers above the lowest level have still more extended training in the mother tongue, we must admit that our schools cannot hope to compete with French schools unless a more extended course in English is required than the single term advocated by the preliminary curricula of the Carnegie Foundation.

b. A full year of properly organized composition in the normal school offers a training in methods of thinking and the handling of material (mental discipline, if you will) that cannot be so economically secured in any other course. The composition course admittedly has no material, no subject matter of its own. It is concerned with the manipulation of subject matter; the scrutiny of facts, concise statement, the organization of material for the purpose of presenting thought clearly and cogently. This concern with the technic of thinking and expression belongs properly to the teaching of composition; it is important in all courses, but, from the nature of the conditions, it must in other courses be incidentally considered. In the composition course, however, it is not incidental, but fundamental. So considered, a course in composition supplements all the other courses offered in the normal school; it is, indeed, a core around which the thinking activities of the school may be organized. The materials of history, geography, psychology, and literature may be handled by the composition teacher in such a way that students may gain greater keenness and clarity of thinking and greater facility of expressing their thoughts about these subjects. The bearing of composition on all the courses of the normal school is again admirably illustrated in the French system, where composition is regarded as extremely important in every examination. To quote from Mr. Rollo W. Brown: "The candidate must not only be able to write with correctness, but he must have a fairly wide range of knowledge, he must be able to think, and he must know how to organize his knowledge and thinking quickly."

III.

The course suggested in the preceding section in designed not only for the student preparing especially to teach English, but for every student in the normal school, in order that he may have at least a fundamental knowledge of his mother tongue. This section, however, will consider the course intended for prospective teachers of composition in the upper grades or the junior high school. It is concerned with the material and the methods of presenting that material to be used in the seventh, eighth, and ninth years. This course may profitably be considered from two different viewpoints: (1) The materials to be taught and the technic of teaching them; and (2) the adaptations necessary in dealing with boys and girls of junior high school age.

(1) The material to be taught is outlined in the school syllabus. Owing to the newness of the junior high school movement and to the changing conceptions of what the course of study in English should contain, school syllabi are now undergoing a thorough reorganization. There is still very great diversity in what different schools require, but certain principles are beginning to emerge as a result of experience with the new type of schools. This experience is still too limited to produce fixed standards; but after all, the junior high school deals with boys and girls that are not essentially different from adolescents of the past, and much valuable experience in teaching pupils of this age has been accumulated. The report of the Committee on the Reorganization of the Course in English has blazed the way through the jungle of theories; and it has been followed by the report of the Committee on the Economy of Time in English. The new syllabus for the State of New York, the proposed syllabus for the State of Vermont, the course of study in English for the Rochester Junior High Schools and the Ben Blewett Junior High School, and many studies and formulations by other States and cities to meet local conditions deal with the material of the English course. An investigation of these courses of study shows a practical agreement on the following principles:

a. The course in composition must provide definite instruction in collecting and arranging material. This includes the use of books, both texts and references; and in particular it requires teaching pupils to increase the rate of reading, to outline what they read, to learn the use of the dictionary, and to use intelligently indexes and tables of contents.

b. Elementary instruction in speaking is required in this course. Definite requirements are made in such matters as distinctness, good posture, courteous forms of address, and planning a speech.

c. Economy of time in teaching the mechanics of writing is recognized as being very important in the composition course. Words actually misspelled are given for drill; punctuation points in ordinary use, good usage in capital letters, letter forms, and arrangement of manuscript are definitely set forth. There is a noticeable elimination of dead wood at this point.

d. In grammar likewise the tendency is to concentrate attention on those topics that have bearing on the pupil's speaking, writing, and reading, and to disregard the merely traditional material and hair-splitting distinctions.

e. In addition to giving definite instruction and drill on the mechanics of speaking, reading, and writing, the course provides training in the organization of thought. Guidance in thinking through a subject that is not too complex for pupils of this age, and instruction in planning by paragraphs the material to be spoken or written constitutes a most important part of the course in composition.

In presenting this material to students of the normal school the instructor should emphasize the material itself; actual instruction in every detail of the above outline is necessary. But in addition to teaching the material it is essential to teach the technic of presenting it to children. The special difficulties that spelling presents, for example, or the pitfalls of the predicate nominative must be met and faced, so that student teachers will be equipped not only with a knowledge of what they are expected to teach, but also with definite ideas of a method of procedure. This instruction should be supplemented by actual practice in handling pupils of the junior high school age, so that the instruction may be not merely understood, but realized through application to a life situation.

(2) The practice teaching just mentioned leads very naturally to a consideration of the adaptation of subject matter to the needs of young people of junior high school age. Perhaps the greatest value of the junior high school movement consists in its focusing attention on the needs of children of the upper grammar grades.

The problems of keeping pupils longer in school, of providing for individual variation of interests and ability, of giving pupils an opportunity to explore different occupations, of promoting initiative by employing the project method in education, of anticipating life experiences through socialized recitations,—all these problems are bound up in the psychology of adolescence; and no successful teaching in junior high school or the upper grammar grades can or does ignore the nature of pupils between the ages of eleven and fifteen. In the teaching of composition this understanding of children is especially important, for no other subject affords such opportunities for contact between teacher and pupils. A practical knowledge of child psychology is therefore fundamental to the composition teacher's success. Where shall he get this knowledge? Unfortunately, normal school courses in psychology too often treat the subject abstractly; but even so they have value to the prospective teacher if they are illustrated and illuminated by practice teaching and actual contact with real children. In that contact alone can the teacher gain any real insight into the minds and hearts he is to instruct and inspire.

Furthermore, the normal school teacher should acquaint his students with good practice in the teaching of composition. Students should acquire definite ideas of the socialized recitation, and should work out in the class and individually applications of this kind of recitation. Composition projects, such as exploring the possibilities of a particular industry, writing a school magazine, making booklets on subjects of individual interests, dramatizing a story, and many others, should be presented to the class in such a way that the student teacher may work such a project through with a group of children. Time limitation will prevent the teacher from giving many such projects, but each student should have the opportunity of proposing and working out at least one. In this way he will get a true conception of the possibilities of project teaching in composition, and will be alert to use this method as often as it is applicable. No field in school offers more favorable opportunities to teaching by this method than the field of composition.

The question of motivation of composition has already been considered in connection with the socialized recitation and the composition project. Student teachers need to learn the enormous importance of motivating every lesson in composition. The reason the teaching of composition has been considered dry and uninteresting is that it has so often been unmotivated. Mr. Clark of the Rochester schools goes so far as to say, "A teacher should never assign a composition to be written by a pupil unless that pupil has some reason for writing it over and above the teacher's command." Such an extreme position is hardly tenable, yet there is much truth in this sweeping statement. A modification of it, at least, will give the prospective teacher a greater sense of his responsibility for providing real situations for his pupils. This viewpoint will make him more skillful in using the activities and interests of the school as a basis for composition. He will give his pupils opportunity to express what they have to say and he will lead them to discover other subjects about which they will wish to speak and write, instead of imposing upon them such profitless and perfunctory themes as "Spring," "My Summer Vacation," and "The Horse." It is, then, the business of the teacher in normal schools to open up to his students the possibilities of motivating composition, and to show them definite means of doing it.

Such a professionalized course in composition will give students an adequate knowledge of what they are expected to teach, an interest in the pupils, and some understanding of them, and an intelligent method of adapting the material to be taught to the needs and capacities of these pupils.

IV.

The two courses previously outlined for a teacher of composition are vocational courses. The first course includes also cultural elements, but it is, from the standpoint of the teacher of composition, quite as truly vocational as chemistry, let us say, is for a medical student. But besides these vocational courses the prospective teacher of composition needs a cultural background that will enable him to see the relation between his subject and the main fields of human knowledge. As composition has no subject matter of its own, the teacher of this course must needs have some familiarity with the subject matter of many courses. Sometimes one is tempted to suggest Carlyle's course given by the Professor of Things in General for the composition teacher's assistance. At all events, the normal school can direct the student teacher's attention to sources of information, at least, by requiring him to take courses in history, geography, literature, economics, natural science, and mathematics. Without the information and the disciplines to be derived from these subjects, without the "easy margin" they will give him, the teacher of composition, however well he may be technically equipped, will be hopelessly swamped by the flood of questions the eager young minds of his pupils will devise to his undoing. Of course, he cannot answer all their questions, however rigorous his training, but he can forestall some of them by a generous education that considers the cultural and disciplinary values of subjects as well as their practical values.

Such a course will naturally demand time. To give our young people the training to which they are entitled we should be willing to provide them with teachers who are themselves adequately trained. That such training cannot be gained in a two-year normal course is generally recognized even now; and boards of education are raising the requirements for teachers in junior high schools to three and in some cases to four years of education beyond the secondary level. Four years is the generally accepted standard for teachers in high schools. That the demands on junior high school teachers are any slighter than the demands on high school teachers few supervisors who have had experience with both schools will admit. If anything, the junior high school is the more exacting of the two. Adaptability and resourcefulness in the teacher are more important in the junior high school than in the usual secondary school, and it is a mere commonplace to say that the more at home one is in a subject the more able he is to adapt it to the needs of his pupils. Better teaching is required in the junior high school, because it is in this school that pupils must be trained in the art of studying, while in the upper school they should have already acquired that art. Since the junior high school deals with less specialized knowledge than the upper school, its teachers need a wider acquaintance with the several fields of knowledge. For the reasons, then, that the teacher in the junior high school needs a wide culture, a great deal of ability to meet new situations and to adapt material to immature minds, and the skill to train children in the art of study, a four year course of training in normal schools or in the schools of education of universities is desirable for junior high school teachers.

From all over the country we hear the cry that the products of the schools are deficient in English,—mainly in English composition and grammar. Although this criticism is sometimes unjustified, there is still enough truth in it to give us serious concern. An examination of modern courses of study reveals an apparently sane and practical program for the teaching of English; progress has been made in determining minimum essentials to be taught in each division of the subject; and a considerable body of dogma relating to the technic of teaching these essentials is available. Yet the fact remains that visits to classrooms show a lamentable failure on the part of teachers to present intelligently the fundamentals of composition and grammar. This failure is to a great extent the result of inadequate training in the materials to be taught and the methods of presenting them. To correct this defect in training and to provide a better equipped body of teachers of composition in junior high schools this program for normal schools is proposed.

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(The above is merely a partial bibliography of sources from which the material in the paper here presented has been drawn. The older sources have been omitted entirely, and only those later books and articles have been quoted that have had especial bearing on the subject.)

PROMOTIONS IN THE PRACTICE SCHOOL AS DETERMINED BY THE USE OF STANDARD TESTS AND EDUCATIONAL MEASUREMENTS.[1]

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There have been educational tests in use in the schoolroom probably as long as schools have existed. The annual visit of the school committee-men sent terror to the hearts of children in Colonial times. And no child since that time has been permitted to grow up without being subjected to the test, the examination, "Regents," whatever name it may go by, oral or written, whichever means we may select to ascertain the extent of his ignorance. You may be kindly disposed enough to refer to it as a "written lesson only," but he reveals to you by a smothered groan that he recognizes your camouflage. And there always will be tests. There always must be.

The function of these in the past has been to discover to what extent that which has been taught, has been retained. As knowledge was one aim of schoolroom work, a frequent check-up to reveal to teacher and pupil how far progress had been made, seemed essential. Now every thoughtful teacher has recognized that there has been something amiss in this form of testing. The correlation between it and the daily classwork of the child has not been close enough to please us. We have known perfectly well that a good memory served the pupil well in a test, whereas in our daily judgment of people many other mental phases come in for consideration. So we have all resorted to the privilege, in making up our "finals," to pull up a little, or down, from the average, according to our judgment formed from the daily classroom contact. In a very indefinite way, thus, we have given recognition to something we can hardly define, to several factors for that matter, to the child's mental make-up, to the teacher's confidence in her free judgments, to the possibility of misunderstanding of the problems that had been set. But it has all been so indefinite.

So much for the teacher's part in any particular classroom. What of the supervising principal's? He has in his system of schools a number of grades of about the same advancement. And he recognizes several things that do not come within the experience of the teacher. Namely, no two teachers are alike, either in teaching ability or in the judgment of results. One gives an easy test, another a hard one. One is very close in her markings, another takes large liberties in the interpretation of answers. A pupil that has done well in one class might not have done so well in another. In the superintendent's or principal's judgment the personal equation of the teachers enters in. And in this he recognizes a most unreliable factor, varying within an individual from day to day. To obviate some of these difficulties, he has sometimes resorted to the making out of test questions himself. Or we have a condition such as prevails in this state, where both the tests offered and the check-up of results rest in a central authority. Has this cared for all the difficulties? By no means. The question of personal equation is active, no matter where the person looking over the papers may have his desk. Personal prejudice, for or against a particular individual, does not enter in, as may be the case when the child is known. That is true. But again, the questions from year to year vary in difficulty, as we know is true with our Regents. Children are being measured by a varying standard. And right here lies the difficulty in the whole method of measurement of classroom products in the past. Our yard-stick of mental measurement has been made of elastic tape.

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[1] Read before the New York State Teachers' Association, November, 1919.

But the terms "test" and "measurement," as applied to schoolroom practice today, have received a new thought-content in recent years. What the large number of teachers and supervisors have recognized in this whole matter as difficulties impossible to be overcome, has been taken up by the experimental psychologist with some degree of success. Binet and Simon, Bobertag and Stern, and any number of American investigators are doing a mighty valuable work today in pointing to a solution to this problem of long standing. And their solution is so simple that one wonders that it has been so long delayed. Frankly, it has been delayed because the teaching profession has not emerged from the "quack" period of its existence. We are just entering upon the scientific period of schoolroom judgment and consequent procedure.

Let us bring to mind the essential points of difference between the old and the new form of measurement. It lies in this comparison,—

A test or examination has consisted of a series of questions, conceived by the examiner to ascertain to what extent a certain amount of instruction, having been given, has been comprehended and retained. It has been largely a test of memory, or of application, with an occasional thought-question to reveal power of original thinking. An intelligent interpreter was able to ascertain, in rather an indefinite manner, the varying degrees of intelligence of the examinees. However, his prime object was not the ascertaining of this fact, but was to test knowledge acquired.

A scientific test as conceived today starts with a norm which has been established through our experimental psychology, by examination of many cases, such norms being a measure of what a mind at a particular age is capable of comprehending. A standard scale is acquired, consisting of various units of accomplishment in subject matter, of equal or approximately equal steps, suitable to a series of ages. It is an accomplishment measuring table.

Now this standard educational test in the first place does away with the personal equation of the examiner, the greatest source of inequality in rating that we have had to deal with. In the second place, it measures up the individual's accomplishment in a subject, not merely with the members of his small group, but with those of his age everywhere, as investigation has revealed the ability of his age limit. The old form of test sets a standard to be reached, and judges thereby, the new method discovers an existing standard as determined by the normal mentality of the age. The desirability of this universal measuring scale is too apparent to need discussion. It answers for the teacher the question, "How much should a child of this age know of this subject?" and not as of old, "How much of what I think he ought to know, does he know?"

In the application of this objective scale, varying degrees of mental ability are at once revealed, and more accurately, of course, than by the subjective judgments of the past. It is self-evident that a degree of correlation exists between mentality and accomplishment, but accomplishment in any particular subject presents no perfect correlation with mentality. At once the necessity arises for tests of intelligence as distinguished from tests of accomplishment in various branches of schoolroom procedure. And we have therefore today—

> The educational tests in the various schoolroom subjects, tests of accomplishment reached according to scientifically established norms.
>
> And intelligence tests, making possible the accurate measurement at various age limits.

The far-reaching significance of the psychological investigations of the past decade in this line is quite as much beyond the educator's ability to visualize, as was the development of the American people as we know it today beyond the imagination of the explorers who first stepped upon the soil of the American continent. We are pioneers in a new educational movement. It is not a mere fad that has struck us; it is a definite forward movement in the profession. Imperfect as it doubtless is in its initial steps, universal tests already throw light on delinquency, on retardation, and are beginning to influence promotions and proper grading. They bid fair to become a dominant factor in choice of subjects and methods of procedure, and in vocational guidance. Already in the light of our little knowledge of educational and intelligence testing, we see that much of our discussion of the past generation on the curriculum and methods of procedure has been a blind groping in the dark. How we have swung from one extreme to another in methods of teaching, from Spencerian through vertical and natural slant to Palmer in penmanship, in reading from phonetic to word and sentence, and combination of any two of them, and Webb, and Ward, and Howe, and Beacon, and See and Say, and Culture, and Story Hour, and New Education, and Aldine! And what has been our basis of judgment? Those who have been through the mill in their administrative duties should herald with joy scales of accurate measurement of the products of various methods, and make an end to the impositions of book concerns and the representations of the educational faddists that have imposed upon our credulity.

Just because of our experience with these many opinions, educators are inclined to be conservative relative to the ready adoption of any new scheme. Conservatism is suitable to a profession, 'tis true, but because of it the profession of education has been kept too long in the realm of the speculative, has been too slow to enter upon the scientific stage. We have depended upon opinion, upon chance success. We have thought we knew and have ended our argument with "Well, that's the way we do in our school?" And we are doubtless responsible for ages of wasted time of human beings. But we have fairly launched upon the scientific era today. The psychologist has come to the schoolroom, our educational laboratory, to learn and to investigate, and in his conclusions he has something to give us. He has taken hold of a piece of work that neither the teacher nor the administrator could do by himself. And the future good of our schools rests on the triangular base, the teaching body, the administrative force, the experimental psychologist.

The main question that now arises is,—Will we who are in the practice field take hold of the demonstrated theories of the experimenters in education, bring them to our classrooms for the betterment of our methods of procedure? That will doubtless be a slow process, for the teacher long on the job is a very self-satisfied individual. She is not experimenting. *She has learned a way.* And then there is the "conscientious objector" to the new that we shall also have to deal with, usually an objector because she is unfamiliar with all sides of the question. Truly the teacher is not particularly hospitable to any new reform. 'Tis not so in the commercial world, where there is a premium on the new, where the struggle for survival is more intense. In few walks of life does competition figure so little as it does with us, accounting in no small degree for the slow onward progress of our profession. Educational experimenters have done their share. Courtis, Ayres, Thorndike, Woody and others have brought their theories to the schoolroom door, but must fail in giving uplift to education unless we can awaken the teacher within to respond to the call. And we can. For the life of our profession lies in the interest that the large majority of classroom teachers have in their pupils. They desire that they shall do as well as the best. Yet so long as they remain ignorant of the latest advances of the profession, how can we expect any practical application of the findings of our leaders? 'Tis a problem that lies with the administrator, to make clear the new viewpoint and arouse enthusiasm for it. And every teacher thus roused to the scientific attitude of the day is an educational asset.

Now the normal schools of this state alone send out annually over a thousand certificated teachers, the number added to greatly by our city and other training classes. These are young minds, susceptible to new ideas, with all the youthful enthusiasm of novitiates. The application of educational tests is simple enough that they are not beyond the ability of the majority of these to use. There was a time when they were tangled in a maze of statistical methods, but fortunately that period is past. The new idea of measurement by means of objective scales should be made known to them. If it is argued that the immature, inexperienced teacher has no comprehending basis for the new movement, we need but point to the splendid body of teachers in this state who have come from our training schools, enthusiastic laborers in behalf of this or that method, fired by the spirit of this or that institution. Today it is the *scientific spirit* that is here, it is clearly recognized by leaders, and upon us as trainers of teachers rests the obligation of acquainting these with this latest contribution made to our profession.

In our training schools we have given much attention to methods of procedure in subject matter presentation. The time is not far distant when it will be possible to compare the product of different methods with reasonable certainty. This attitude the new recruits should learn, the scientific basis for comparison. It should be brought to them through their method classes and should be demonstrated through occasional testing out of the results of actual schoolroom work done under their observation. The norms or standards for various grades in those subjects in which these have been established should become the measure of efficient teaching, should weed out the undesirable methods of procedure.

Again the occasional test in subjects taught give the pupil teacher a truer basis than her subjective analysis possibly can, for a judgment of the weakness or strength of a pupil in any particular part of a subject. In arithmetic, is he high or low in accuracy, in speed? Does he do as well in multiplication as in addition or subtraction? Where does he need special attention? On what work well known may he safely save time, to spend it more desirably on other phases of the subject in which he is less proficient? A record of each pupil's progress in a subject may thus be kept for reference by this and succeeding teachers who may be assigned to the room for practice. Forms for such record sheets have already been suggested, and probably the time is not far away when every good school system will have a permanent record of each pupil's school progress, as measured on this subjective basis.

Every practice school is subject to frequent change of teachers. The work is not consecutive as it would be in the hands of a single teacher. Supervision functions to maintain unity. The practice teacher's subjective judgment of work accomplished is limited by her inexperience, too often by her immaturity. Here the standardized tests have an especial value,—for the supervisor, to assist in proper grading,—for the practice teacher, as a check-up on results actually accomplished,—for both, in the recognition of the relative value of different methods of arriving at results.

Tied up with this "New Thought" education is the question of intelligence testing, the "trying out" of that mental adaptability to the new situation, which underlies and explains the individual's reactions to schoolroom work and to all other life conditions. There is a difference between educational testing and intelligence measuring, but in practical application we accomplish best results only when both are used as bases for judgment. An educational test measures schoolroom accomplishment. Schoolroom accomplishment is dependent upon mental ability, intelligence. But schoolroom accomplishment is not a sure indication of mental ability. Intelligence testing measures mental ability. And mental ability is no sure indication of schoolroom accomplishment. Now in the judgment of a pupil one wishes to know—

1. What mental ability *has* he, that is, what *can* he do?
2. To what extent does he react to the best of his ability, that is, what *does* he do?
3. Why does he not do as well as he can do?

We have two methods of intelligence testing, individual and group, and one is no substitute for the other. Our group-testing schemes are still in the experimental stage, our individual testing has reached a high degree of perfection considering the short time since the initial experiments were made. A group mental survey may be made in thirty minutes, in any grade, and tests, of course, all children at once. An individual test takes perhaps an hour. The result of the former is an appropriate grouping according to degree of mentality of the members of the class. The latter gives basis for a careful analysis of an individual, not only as to degree of mentality, but somewhat as to individual characteristics of the thought-life. Group testing is possible to be undertaken by a person of no especial psychological training. Individual testing is decidely not. It should be undertaken by duly qualified persons only.

As to the application of these intelligence tests in our practice schools, it seems to me highly desirable that they be accepted at once in our normal school curricula, that they become a part of our teaching in psychology, that demonstrations of both types be given in the presence of our senior students, and that they be utilized in the estimates of children's work as a basis for promotion. There is no special difficulty in application, there is no addition to an already overcrowded curriculum. It is simply a substitution of better methods of child-study for unsatisfactory ones of the past. In the limited experience I have had in our own practice school, I could not overemphasize the enthusiasm and the quick understanding of the young teacher when this subject is opened up to her. It gives a definiteness to her understanding of children, a means for accounting for the type of work done by them. It gives her a better insight into her own thought-processes. Again and again a practice teacher will come voluntarily with a request to have a child examined in her presence, and not infrequently she will give expression to the solution of her problem as she has discovered it through the opportunity given her for a more careful analysis of the child's mind.

As our normal and training schools are organized today, it does not seem unpractical to suggest the following program, to be undertaken at once:

1. Instructors in methods of teaching to acquaint their pupils with the educational tests available for their particular subjects.

2. Instructors in psychology to open up to their students the possibilities of group mental surveys, and of individual testing, demonstrations to be given.

3. Supervisors directing the practice teaching to test out from time to time the progress of children in the various subjects for which we have accomplishment tests. In this the pupil teacher should be an assistant, and permanent records should be kept.

4. The head of the practice school or the supervising teacher of a grade to make group mental surveys once or twice a year in the practice school, as a basis for better interpretation by practice teachers and supervising teachers of the work actually being done.

5. The instructor in psychology to carry on as rapidly as possible the individual testing, pupil teachers assisting by scoring, permanent records being kept.

And to conclude:

Promotions in the practice school to be based on the findings from all these sources.

Although this does not necessitate a different system of grading from that which has been in vogue with our previous methods of testing, the time is ripe for a new type of schoolroom grading, namely, a grouping of pupils of nearly equal mental age under instruction more closely adapted to their particular needs. With this new arrangement we look forward to a saving of time and effort, to a more efficiently trained boyhood and girlhood.

LOCAL ADMINISTRATION OF VOCATIONAL EDUCATION

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Vocational education has been defined as such preparation as will increase the earning capacity of persons at least two-thirds of whom enter the occupation for which the training was given. This is a narrow definition. The view at the other extreme holds that all prsent-day formal education comes within the meaning of the term "vocational."

If one returns to Herbert Spencer's classification of the aims of formal education in the order of their importance as: economic independence of the individual and all those dependent on him, the social interest, the political interest, and the interests of leisure, the first should logically be designated as vocational. If the vocational aims of all education are then of such paramount importance, vocational education should properly take its place as an essential phase of our educational system. But we are at the present concerned merely with beginnings. While the term has been familiar to us for perhaps a decade, the actual practice of vocational education has scarcely commenced in our public schools.

For the purposes of the succeeding discussion of a plan for the administering of vocational education, the following conditions have been assumed:—

(1) A community of population between twenty-five and fifty thousand. This may be either a typical urban community of this size, or a rural community centering for educational purposes in the county or union high school.

(2) Compulsory school attendance to the age of sixteen, taking the normal pupil through, or well into the junior high school, and releasing him at an age sufficiently advanced for him to step into the lower stages of a vocation which may probably be his permanent occupation.

(3) It is assumed as a matter of course that the vocational education program of any such community can best be carried out through the existing educational system, centering in the local board of education.

LAUNCHING THE MOVEMENT.

The initiation of a program of vocational education will be in the hands of the superintendent of the school system. The first problem will be to so present the need to one or two and finally to all of the members of the board of education as to enlist their hearty support. The time involved in this task will depend upon the local evidence of the need, the personnel of the board and the powers of suasion possessed by the superintendent.

Once the board of education is thoroughly aroused to the problem, it will be time to open a campaign of publicity, using any or all of the following agencies:—the press, chamber of commerce, rotary club, employers' associations, trade unions, and parent-teacher associations.

The community being now behind the program, a committee will be appointed, either by the superintendent and board of education, or by a citizens' mass-meeting, consisting of not less than three nor more than seven members, chosen to represent the board of education, the employers, employees, homes and schools. To meet the latter need, the superintendent may well be ex-officio chairman of this committee. The function of the committee will be to act in advisory capacity to the board of education and the superintendent in carrying out the program of vocational education.

This will be done through a director of vocational education who will now be chosen, and who will meet with this committee and may serve as its executive secretary.

THE SURVEY.

The first duty of the director of vocational education will be to conduct a survey of the community. For this purpose he will be assisted by some one or more persons who are expert in this field of educational effort. Their services may be needed only temporarily, but one outcome of the taking of this original survey will be the establishment, if they do not already exist, of facilities for the continuous gathering and digesting of data concerning the community, of value to the school department. This may be called a bureau of statistics.

It is not feasible, within the compass of this brief paper, to discuss in detail what will be included in such a survey. In general terms it will be an educational, occupational, and industrial survey combined. It will cover, though in less detail, the surrounding district which draws from, or feeds into the community, its trained workers. It will aim to determine mainly these facts:—the character, extent, and relative locations of existing school facilities which may be utilized in the vocational program; the school population, its age-grade distribution and race and intelligence characteristics; youths under twenty-one outside of school, character of their employment, school and employment history, and occupational expectation; occupational distribution of adult workers; migration statistics, both as to shifting from job to job, and from place to place; the industrial complexion of the community; character and size of each industry;* types of workers employed and labor-turnover statistics; and facilities in the local industries for possible co-operative educational activities.

The character of the survey will vary as widely between different communities as does the industrial complexion of these several communities. Certainly there will be no attempt to utilize in toto the methods applicable or previously applied in some one community to the conditions in all others.

In a given community the ship-building industry may be the dominating feature in the industrial situation. Here the survey will be mainly concerned with discovering the number of employees and the character of their employment, in such occupations as riveter, shipfitter, rigger, ship-carpenter, electric welder, machinist, punch-press operator, ship-electrician, loftsman, quarter-man, pipe-fitter, oxy-acetylene welder and cutter. Before instituting a program of vocational education for any or all of these occupations, the school authorities will need to discover, through consultation with employers and employees, access to employment records or other available means, the significant data concerning these occupations.

The content of each of the occupations for which it is finally planned to provide instruction will be determined with sufficient accuracy and completeness to build up an adequate program of instruction, of "teachable content." It may be found that for the large number of riveters and their crews little beyond manual skill and physical strength are required. In this case the vocational training will consist largely in practice in operation of the tools for a short period sufficient to provide the necessary manual dexterity. This will undoubtedly involve co-operation on the part of the industry in allowing use of tools and of scrap material. It is the determination of just such significant facts which go together to make up a survey of the type here contemplated.

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*The term "industry," as used in this paper, has been taken in the broad sense of including all such fields as commercial, manufacturing, agricultural, professional and home-making occupations.

The survey will practically develop into a careful analysis of each of the occupations for which it seems desirable to give instruction. If it is found that the shipfitter will need a very high degree of skill in the application of certain details of a single branch of mathematics, as descriptive or analytical geometry, the means of giving this skill will be sought, based upon sufficient knowledge of the whole subject to make the skill secure, but without requiring such a thorough grounding in the underlying and collateral fields in mathematics as might possibly be desirable for the professional engineer, for example.

It will be determined to what extent knowledge of the principles of mechanical drawing are essential to the shipfitter and to what extent, if at all, actual skill in applying these principles in drawing are necessary for him. Great care will be taken not to spend time and energy to produce a highly skilled draftsman, as an incident in the production of a skilled mechanic, unless this is demonstrably necessary. Those units of drawing and mathematics only which are directly significant for his occupation will be included in his vocational preparation.

The Program.

Based upon the findings of the survey, recommendations as to the details of the program of vocational education will be submitted to the board of education. The nature of these recommendations cannot, in the nature of the case, be exactly predicted.

Good judgment will control in the selection of the occupations for which local training should be provided. Some vocations require such expensive equipment and highly trained instructors as could not normally be provided by each community of the size here considered. Electrical engineers, physicians and naval architects will continue to be trained in special centers where adequate facilities are provided by the state or other agencies. The training of elementary school teachers, barbers and librarians will not be attempted in each community where these occupations are found, but by joint action, efficient vocational schools covering each of these fields will be maintained in certain centers where facilities are best adapted to their successful operation.

On the other hand, in an industrial community, such training as is found desirable for mechanics, machine operatives and process workers will be given locally. Stenographers, retail store salespeople and those who expect to pursue the branch of agriculture predominant in their own community will receive the preparation for such occupation through the local schools.

It is now possible to indicate the general fields into which the local program for vocational education will fall. The only addition to the elementary school curriculum which will be incorporated under the direction of the vocational education department will consist in occupational-study classes for boys and girls who have come within a year of the legal age for leaving school. It is evident that the occupations studied in such groups will be confined to such as presuppose no more than an elementary school education.

During the period from the seventh to the ninth or tenth grades, which represents the end of the formal education period for the vast majority of our children at the present time, a large amount of prevocational work will be given. This will include such occupational-study classes as mentioned above. These may be expanded, through shop facilities, into occupational-tasting. Occupational exposure will be provided by class trips to local industries. By these methods boys will be introduced to the existence of the various occupational fields open to them, as printing, carpentry, dentistry, the law, truck-driving, shoe-repairing, painting, tailoring, cooking, baking, banking, policing and retail selling. The girls will become acquainted with such occupations as laundry-worker, stenographer, office-nurse, retail sales-girl, factory operative, teacher, librarian, domestic servant, photographer, hair-dresser, home-maker. The aim will be to broaden as much as may be the youth's conception of the vocational opportunities open to him. No distinct vocational training will be provided until he has "graduated" from this occupational-study stage.

In the senior high school may be instituted a complete vocational program. If this is planned for regularly enrolled high school students in a regularly established high school, it will become a distinct department of this high school. It will probably include or involve several existing departments, as the mechanics, commercial, agricultural, and home economics. The separation between the vocational department and the rest of the school may be made as marked or as indistinct as is considered wise. Separate classes will be maintained for vocational students in the supplemental subjects if the numbers enrolled make it feasible.

Another possible field of vocational education may appear in the regular high school in the form of co-operative classes. This will be exactly similar in scope to the preceding with the difference that the occupational experience will be obtained by employment on a part-time basis in neighboring industries. This employment may alternate with school-work bi-weekly, weekly, or by half-days. It will be found in machine-shops, banks, hospitals, grocery-stores, power-houses, garages, post-offices, planing-mills, department stores, and factories.

Yet another field which lies within the province of the regular high school is the continuation class work. This will return to the high school, by compulsion or otherwise, the youth who has entered upon employment who will frequently hold very lively ideas of his own need for further education. The supplemental subjects will constitute the main contribution of the school curriculum to his needs.

It is doubtful if there will be a place in a community of the size under consideration for a separate vocational high school. If one is established it will be planned to accommodate all of the phases of secondary vocational education which good judgment determines should be provided for locally. It will include the co-operative and continuation classes already mentioned, as well as the two following fields.

The work of the evening school is so largely vocational in character that it will be under the direct control of the vocational department.

If a junior college exists or the demand indicated by the survey warrants its establishment, a considerable amount of strictly vocational work in those years will logically be organized through the vocational education department. It will be possible to provide vocational courses leading to such occupations as foremanship (part-time courses), stationary engineering, power-plant operation, store or office management. secretaryships, elementary school teaching. By arrangement, nearby communities will send their vocational students for this training, while our community sends its prospective poultry-raisers, barbers and nurses to such other communities as provide special facilities for training in these fields.

ORGANIZATION.

The recommendations to the board of education will include plans of organization, both as to instruction and as to personnel for carrying out the program determined upon.

The progression of the normal pupil will be from the elementary school work through the occupational study or tasting class, or both, into the full vocational program of the senior high school. A certain small proportion, as at present, will be preparing for college entrance, but the larger number, who at present do not appear in our high schools at all, will be enrolled in some branch of the vocational program.

Each vocational course will include five items:—

(1) Vocational experience.
(2) Supplemental science, drawing, English or mathematics.
(3) Physical education and hygiene.
(4) Citizenship.
(5) Possible academic or other subjects.

The vocational experience will occupy at least one-half the student's time. It will be obtained in the industry itself in the case of the co-operative, continuation and evening school pupils. In other cases it will be provided by the school or consist in home projects.

Careful judgment will be exercised in preparing the school plant for providing the vocational experience. It will be difficult if not impossible for the school to duplicate the facilities found in the industry for giving vocational experience. Moreover, once provided, such equipment will need replacement somewhat frequently in order to provide the basis for up-to-date instruction and training. Every effort consistent with efficiency will therefore be made to utilize existing facilities in the community without burdening the department with heavy expense for additional equipment.

On the other hand, nowhere in the school system will a "penny-wise" attitude on the part of the school board more certainly negate the best efforts which may be put forth to further the interests of education of all the people. The board and the community will therefore be led to understand from the beginning that considerable expense for buildings and equipment may be involved in the program. They will be prepared to meet it upon demonstration that no other solution of the problem is feasible.

THE DIRECTOR OF VOCATIONAL EDUCATION.

Not to attempt to enumerate all the virtues which should be combined in one individual to produce an acceptable director of vocational education, he will be measured by the following standards:—(1) of foreman calibre in some vocation other than education; (2) having had two years of successful teaching experience; (3) with two years of successful administrative experience in education.

A period of one year will elapse from the employment of the director before instituting the formal program of vocational education. During this time he will be engaged in directing the survey, digesting the results, laying plans for the program to be inaugurated and supervising such vocational and pre-vocational work as may be already in existence.

Thereafter he will have direct supervision of the vocational education carried out through the elementary, junior, senior and evening high schools and the junior college as already indicated. While he will collaborate with the principals of the other schools in carrying out the program, the principals of the evening and vocational high schools will be directly responsible to him. He will relieve the superintendent of all details in the employment of teachers in his department, always, however, obtaining the approval of the principal concerned before recommending any applicant for election. In so far as it is feasible to have separate instruction for vocational students in the supplemental subjects, the foregoing statement will apply to the employment of teachers of such subjects.

THE VOCATIONAL TEACHER.

The vocational teacher, beside meeting existing requirements for certification, will be chosen on the basis of superior ability in the occupation which he expects to teach. In addition he will have demonstrated ability to deal successfully with persons as well as with things. In a word he will be of foreman calibre. The salary schedule will be on such a basis as to make this feasible.

He will be required to take, every fifth year, a sabbatical leave upon one-fourth salary, and upon return will show evidence of having been engaged for at least ten months in a remunerative capacity in the occupation for which he is a teacher.

BUREAU OF COUNSELLING, CO-ORDINATION AND PLACEMENT.

A bureau for counselling, co-ordination and placement will be instituted. It may combine these functions with those of a bureau of statistics already mentioned. Each officer in this bureau will be concerned with all the phases of the work of the bureau mentioned.

Counselling will include the class instruction in the occupational-study classes and individual counselling, both educational and vocational. This will imply a systematic record of each pupil's capacities, physical, mental and temperamental. Mental capacity will be indicated by school record, opinions of teachers and others, and by mental tests.

Placement will be closely allied with counselling. Not only will employment be secured for youths upon their leaving school, but at such times as they thereafter apply for this service. There will be a systematic follow-up of each youth at least to the age of twenty-one. Every effort will be made to insure his satisfactory progress in the occupation for which he is best fitted.

Co-ordination will be concerned primarily with the maintenance of a personal contact between the work of the school and the employment. It will function in the cases of continuation, co-operative and evening school pupils. The co-ordinator will consult, on the one hand with the employer and foreman and on the other with the director of vocational education and teacher. He will be in a position to supervise the work of the pupil in both school and employment. It is apparent that he will be the person best situated to act as personal counsellor for the student. He will also be best qualified to conduct the occupational-study classes and placement function, through his constant touch with employers of the community.

THE PUPILS.

With the possible exception of those of distinctly superior intelligence who should plan to enter the professions, the pupils in the whole school system will not be more diverse in capacity than those found in the vocational department. Those of distinctly low mentality will be provided with training for occupations to which they are suited and assisted to find their way into these occupations with the least possible loss of time and effort.

Those who obtain their occupational experience by working in the industry will do so under the protection and restrictions of a trade agreement, entered into jointly by the pupil (countersigned by parent or guardian), the employer and the school department. By its terms the youth will agree to continue in the course for a specified period, the school will undertake to provide instruction and supervise his training and the employer will bind himself to certain conditions as to wages, hours of labor, variation of occupational experience and co-operation with the school department. Work permits will be issued to pupils below the legal age limit only upon arrangement with prospective employers that they shall attend continuation classes at least eight hours per week.

All other pupils entering the vocational courses will sign an annual contract with the vocational education department. In this the pupil will agree to continue the work undertaken throughout the year, or other specified term, and the department in certain instances will undertake to guarantee financial remuneration to the student for the net value of his productive efforts while under instruction. All practical work in the department will be, so far as possible, on a productive basis. This agreement will at once provide a needed protection to the department, emphasize to the student the advantages he is to enjoy, and introduce the prospective worker to the importance of steadiness and reasonable permanency in an occupation.

AIMS.

Every normal individual is faced with the necessity of making three decisions which are of vital consequence in his life:—the choice of a religion, or life-philosophy; the choice of a life-partner; and the choice of a life-vocation. It devolves upon organized education as a duty, to assist in the choice of, and preparation for the last of these, for every individual. This constitutes the fundamental aim of vocational education.

Such a program as outlined herein will aim to perform its part in supplying society with the trained, efficient workers which at present are so frequently noticeable by their non-existence. It will attempt to decrease that most fertile source of waste in the present economic system, the labor-turnover.

It will aim to provide, within five years of its inception, such an educational scheme as to hold not less than fifty percent of all pupils who enter the school system, through the years of the senior high school course.

It will condition the training of the individual upon his capacity to successfully "deliver" in the field for which he is trained. It will aim to prepare the youth to live his life in the most useful, and hence the most contented and happy fashion of which he is capable. It will at no time lose sight of the individual, or lapse its wardship over him, from the time he enters the kindergarten until he reaches maturity, unless he shall have removed from the community.

A unified and coherent school system will have taken the place of the typical present incomplete organization, and every youth will have the opportunity for obtaining that which is his due, but is at present available only to the favored few,—an adequate training for his life-vocation.

SOME INNOVATIONS THAT MAKE FOR EFFICIENCY IN TEACHER TRAINING

IRVING E. MILLER,
State Normal School, Bellingham, Wash.

One of the most acute problems which confronts normal schools is that of insuring adequate knowledge of the common branches on the part of those who graduate. In the State Normal School at Bellingham, Washington, this problem is being solved in a new way. Standardized tests in common branches are being given to all its students. It is expected that they will meet as a minimum the standard required for the eighth grade. After the policy has become well established, these standards will be gradually raised.

The passing of standardized tests is made a condition of admission to courses in special methods and to practice teaching. Also, it is a prerequisite for any certificate issued by the school. Those who fail in any standardized test must take that subject in class. They are assigned to this review class without increasing the number of hours per week in their regular schedule of work. While they must earn a credit in this course, this credit does not count toward graduation. Thus, a knowledge of the common branches is made compulsory for progress in the normal school course, and lack of such knowledge lengthens the time taken to complete the course.

In addition to this forward step, all students are required to undergo a physical examination and they must take such remedial steps as may be necessary to correct physical defects and improve their health. After such steps have been taken, they are given another examination. The results of the physical examination and their health record are put on file in the office of the appointment bureau. Mental tests are given to all students, and their rating, likewise, is put on file in the office of the appointment bureau. While physical and mental ratings are not at the present time made public, nor given to those who seek teachers, they are a very important aid to the bureau in making intelligent recommendations.

THE PROPOSED NORMAL-SCHOOL SCHOLARSHIP LAW OF ILLINOIS

A BILL FOR AN ACT TO PROVIDE SCHOLARSHIPS FOR STUDENTS ATTENDING THE STATE-SUPPORTED INSTITUTIONS FOR THE TRAINING OF TEACHERS.

SECTION 1. Be it enacted by the People of the State of Illinois represented in the General Assembly:—That the State of Illinois hereby agrees within the limits of the annual appropriations provided in accordance with this Act to cooperate with the school districts in the State in providing two-year scholarships for students in the state-supported institutions for the training of teachers.

SECTION 2. Said scholarships shall be for $300 per year payable one-half from the District Treasury in September, the other half from the state appropriation in January in each of the two years for which the scholarship shall run.

SECTION 3. Said scholarships shall be awarded between May 1 and August 15. The school board awarding the scholarship shall without delay notify the Superintendent of Public Instruction of its act, who shall register the scholarships in the order that the notifications are received. Within ten days after August 15 the Superintendent of Public Instruction shall approve the scholarships awarded according to law in the order of their registration except that no county may be deprived of its minimum quota, one scholarship for each fifty teachers or major fraction of this number. No more than 1000 scholarships may be approved in any year. Scholarships reported beyond this limit shall not receive state aid.

SECTION 4. Said scholarships may be awarded by school boards to residents of the school district, who are graduates of recognized four-year high schools, who are of good moral character and who meet the scholastic and physical standards prescribed by the Superintendent of Public Instruction. Any district may issue at least one scholarship in each biennium. If two or more scholarships are issued in any district, the total amount paid for scholarships in any year shall not exceed five per cent of the annual expenditure for teachers' salaries in that district.

Section 5. The person receiving the scholarship shall sign a pledge to attend a state school for the training of teachers in Illinois for two school years and continue his studies until graduation, and after his graduation to teach two years in the district furnishing the aid and two additional years in the public schools of Illinois, at the salary usually paid where he is employed to teachers of like qualifications, grade, preparation, and experience.

In guaranty of this pledge the person receiving the scholarship shall sign four promissory notes with security approved by the district school board. Said note shall be for one hundred and fifty dollars each payable one at the expiration of each year which the maker is pledged to teach, and shall bear interest after maturity at the rate of six per cent per annum. Two of these notes shall be made payable to the school district issuing the scholarship, two to the Department of Registration and Education. One of these notes shall be cancelled without payment of the principal sum at the end of each year taught in accordance with the pledge. The four years of teaching for which notes are cancelled must be completed within six years after graduation, unless the time is extended by the Superintendent of Public Instruction.

Section 6. Boards of Education and Boards of Directors are hereby authorized to pay out of their fund for operating expenses the amount required for the scholarships issued by them.

Section 7. On or before December 15, the Director of Registration and Education shall report to the Auditor of Public Accounts the names of all students holding valid approved district scholarships who are attending the several state teacher-training institutions, and the Auditor is hereby instructed to issue not later than January 15, a warrant of $150 in favor of each student reported, said warrant to be delivered to the student upon his filing the promissory note requested by this Act.

Section 8. The school board issuing a scholarship may release the student who received it from his obligation to teach in that district. The obligation to teach four years in the state remains in force. The Superintendent of Public Instruction shall have power to release any student from his obligation to teach or to pay the promissory notes he has made, if the school board which issued the scholarship certifies that his physical or mental condition is such as to disqualify him for teaching as required in this Act. The death of a student shall release the sureties upon his promissory notes given in accordance with this Act.

Section 9. To provide funds for carrying out the provisions of this Act the sum of $150,000 is hereby appropriated to the Department of Registration and Education for the year 1921-22, $300,000 for the year 1922-23, or such part of these sums as may be needed.

Section 10. The Superintendent of Public Instruction is hereby authorized to make such rules as are necessary to carry out the provisions of this Act.

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

Including Teacher Training

A "CASE" STUDY OF SUPERVISION

RUBY MINOR,
Supervisor of Instruction, Public Schools, Anderson, Indiana.

The same general plan is followed in each of the illustrations: (1) a brief description of the recitation; (2) a report of the conference between supervisor and teacher in conversational form; and (3) a summary of the chief points where skill was shown.

GRADE 4A. DRILL IN ARITHMETIC.

Two pupils were sent to the blackboard. The teacher gave out a problem in long division to one; a problem in multiplication to the other. The pupils at their seats were told to solve either.

There seemed to be no motivation beyond a desire to obey the teacher. No provision was made for the pupils who completed the work first.

General relaxation of effort prevailed, with whispering, sitting on desks, and other manifestations of inattention. The teacher inspected work and encouraged slow pupils.

The supervisor decided that the recitation represented a low plane of instruction. She attributed the difficulty to a failure on the part of the teacher to appreciate the importance of even a short recitation and to the lack of a definite theory as to what constitutes good method in drill. Having decided that the latter point, if tactfully handled, would cover the main issue, the following conversation ensued.

Conference.

Supervisor: Miss B., some of your pupils seemed to be doing very good work in Arithmetic. I inferred that you thought some of them needed to improve, and that was the reason for the drill.

Teacher: Yes. Some in that class are still having difficulty with division, and others with multiplication.

S.: What do you understand to be essential features of a good drill?

T.: I think the drill should always be something the pupils really need.

S.: Good! Would you think it essential that the pupils should be conscious of that need?

T.: Yes; but I hadn't thought of just that phase of it.

S.: One of the most important of educational principles is involved at just that point. A searching question to ask one's self is—"Do these children feel a real need?" or "What motive do they have for this recitation?"

It is often good to begin and close a drill lesson with a concrete problem in order that pupils may see the close relation between the drill and actual use.

Another point occurred to me as essential in drill. What provision did you make to keep all of the pupils busy all of the time?

T.: Those pupils are so unequal in ability that it is difficult to get work that will do that.

S.: And yet I think that you will agree that it is a very important habit for a pupil to work with a high degree of concentration for a certain length of time. Have you tried providing extra problems for those pupils who finish first?

T.: It has seemed to take my time with the slow pupils; and I have left the others, I fear, to follow their own course.

S.: It is sometimes an incentive to the strong pupils if allowed to help weaker ones, and often the weaker pupils are inspired to greater effort.

Have you made use of any devices to help pupils to keep an account of their own progress in improvement?

T.: No, not exactly. We sometimes have games and keep the score.

S.: That's good. It provides a motive that has immediate interest. There are many ways of leading a pupil to see his particular weakness. It is sometimes good to have several problems provided and allow only a certain time limit for completion. The Studebaker Practice Tests have some valuable suggestions along this line. If you care to try them, I shall send a set to your room. I shall be glad to know how you use them, and what improvement you see as a result.

Comment.

Skill was shown by the supervisor: (1) in determining the cause of the weakness in the recitation; (2) in selecting for discussion the one most vital issue; (3) in the development of the discussion with the teacher, which was straightforward, simple, and practical; and resulted in a definte idea on the part of the teacher as to what she could do to improve the character of her pupil's work; (4) in suggesting a definite help, the Studebaker Practice Tests, which might contribute to the growth of both teacher and pupils.

GRADE 6. HISTORY.

The class was studying government, and for this particular recitation the pupils were to discuss local election issues. They had been asked to notice advertisements of the different city factions as they appeared in newspapers or on billboards. The teacher explained meaning with occasional supplement by pupils. The teacher then mentioned and showed newspapers that had been brought to class by different pupils in support of various candidates.

The first point raised for discussion was the extravagance of present administration. The teacher cautioned pupils that all discussions must be tempered by open-mindedness. Free discussion ensued in support of and against each proposition.

Without attempting to settle the opinions of the class, but impartially insisting that there are always two views to be considered, the teacher called attention to another point at issue. The apparent dishonesty and vacillating policy of one candidate then came up for discussion. Papers were produced to show that this candidate had strong support.

The last point raised was the Gary school plan. The teacher explained about the Gary school system and pupils were invited to give opinions as to its merits.

Conference.

S.: I enjoyed the recitation more than anything in history I have heard for a long time. Aside from the splendid interest which was manifested, the pupils were acquiring an attitude toward the study of history that was very worth while.

They were also gaining power in the interpretation of newspapers that is valuable.

The most fundamental principle involved was the fact that subject-matter or the curriculum is not static.

Do you realize that the type of recitation which you held this morning is somewhat out of the ordinary?

T.: I suppose it would be considered so by those who still adhere to some of the older ideas.

S.: How would you justify that recitation to those who might be disposed to adversely criticize it?

T.: I think the attitude of the pupils is proof that they are interested in life situations. I have found by other experiments along the same line that topics in history are much better understood if approached on this same life basis.

S.: How would you regard the pupils' method of work as manifested in this type of recitation?

T.: They are acquiring a self-confidence in discussing the various subjects that is in itself very valuable.

S.: Do you think you might expect even more responsibility to be taken by pupils?

T.: I don't see just how.

S.: In mentioning the Gary system I noticed the pupils seemed to know very little about it. Your explanation was very simple, and yet it seemed to have come to them so suddenly that they had no time to form an opinion. Would it not have been advisable to have collected material, of which there was quite an abundance, and after the pupils had had time to think about it then to have permitted the discussion?

T.: Yes, I think that would have made the discussion more pointed; and would have encouraged the habit of evaluating material and opinion.

S.: I thought your attitude toward open-mindedness was especially well taken, and seemed to be influencing the pupils to a great degree in their discussions.

The cöoperative work was unusually good. I should try to encourage even more responsibility on the part of the pupils.

Do you find that these pupils are acquiring the ability to organize their thought and speech along other lines in the same capable way?

T.: Perhaps not to the same extent; but they are showing improvement because we are emphasizing that phase in other work.

S.: Good. I shall be glad to follow their progress in this particular habit formation, as I consider it one of the very important manifestations of growth.

Comment.

The supervisor showed skill: (1) in her hearty expression of appreciation of what would ordinarily be called an innovation in the school program; (2) in suggesting to the teacher the importance of definite ideas in theory; (3) in urging the continuance of certain good features, and showing how they might be improved; (4) by letting the teacher know that she felt a joint responsibility, and was sufficiently interested to keep in touch with these pupils in the future.

GRADE 4B. LANGUAGE.

Purpose as stated by teacher: To learn to write with correct use of capitals, with particular emphasis upon the derivatives of proper nouns.

The teacher dictated three sentences which had been written by different pupils on previous day:

1. My Scotch terrier can do many tricks.
2. I'd love to have a Shetland pony.
3. Has your mother a Turkish rug?

After the first sentence was written, different pupils were called on to read, tell where capitals were used, and justify the use by giving the rule.

One pupil who read was still confused about the derivation. The teacher used the illustration: "John is an American boy"; and explained in detail why "American" begins with a capital and why "boy" does not.

During this lengthy explanation, many of the pupils were inattentive. After each of the other sentences were read, the same kind of discussion ensued. The teacher always explained the difficulty and did not hold the pupils responsible for individual effort.

As the teacher shifted her position about the room, *she* was the center of attraction; the pupils near her were attentive, while those on the opposite side of the room were more or less indifferent.

Conference.

S.: One of the most delightful features of the work in your room, Miss A., is the sympathetic relation that exists between teacher and pupils. I consider that a very great asset to a teacher, if properly controlled. Have you ever thought of the danger which may result to the pupils from what otherwise seems so desirable?

T.: I have noticed that their desire to please me sometimes leads them to a show of excitement, and causes confusion. I should be glad to know how to hold their regard and at the same time maintain good order.

S.: Would you agree that it is highly desirable for pupils to be so absorbed in the pursuit of their work that the teacher doesn't appear to dominate the situation?

T.: Yes; but they seem to depend upon me to guide.

S.: Would you say that a large part of the teacher's function is to guide, but that it may be done indirectly?

There are two fundamental principles involved in every recitation; subject-matter and pupils' method of work. You will readily agree that these two phases of school work are very closely related. Was the interest in the subject-matter sufficient to provide a real motive in the recitation?

T.: They seemed to be interested when I called on them.

S.: That is just the point I am glad to have you bring out. Would you agree that the pupils' interest was more in the desire to please the teacher than in any problem of their own?

S.: Judging from this recitation, Miss A., I think your pupils are not realizing the importance of individual responsibility and concentrated effort. To illustrate: When you explained very carefully the reason for the capital in "American" and why none was used in writing "boy"; one such explanation by the teacher should have been sufficient during one recitation period if pupils had been alert. How do you think you might have met the difficulty when the next pupil failed to understand?

T.: I might have let another pupil help him.

S.: Which do you think would be more conductive to growth on the part of the pupils, many repetitions by the teacher or for the pupils to be held responsible to the extent of their ability?

T.: I begin to see what I can do.

S.: You showed some inclination to have a cooperative recitation. I should emphasize that a great deal more if I were you. Nothing puts pupils so much on the alert as to feel that there is a need for alertness. To the extent that the teacher takes the initiative and assumes direct responsibility for the success of the recitation, to that extent the pupils will lose the opportunity for power in that line.

The very fact that your pupils do have a high regard for you is the best basis for starting some useful habits of study. How important do you consider personal initiative in self-control on the part of pupils?

T.: I think it would be fine to have the two together. My pupils seem to have initiative without the control.

S.: I believe that you will find that a keen motive in every recitation, with a real social situation in which there is *expected* both initiative and cooperation will help you to solve your difficulties.

Comment.

The supervisor showed skill: (1) in the tactful way in which she used the teacher's strongest asset, sympathy, to point out her weakness; (2) the opening remark by the supervisor was the kind to establish a sympathetic understanding; (3) by the way in which she admitted and commended merits; at the same time leading the teacher to see ways of improvement; (4) by the way in which she used the teacher's answers to build up her presentation of suggested improvement; this could be done only after a thorough study of the situation and a definite plan of suggestions had been decided upon.

GRADE 1. GROUP ACTIVITIES AND READING.

One group was reading for teacher and class. The pupils did most of the helping when difficulties arose. If the situation became too difficult, the teacher helped.

Another group was reading from choice in a little "corner library." Another group was caring for a pet bird in a cage. Some pupils were molding with clay; some were drawing; and one child was sewing.

As long as there was harmony and no infringement of the rights of others, the pupils were not interfered with by the teacher. Two members were noisy and disturbing; they were consequently isolated from their group.

At the close of this free-activity period, the teacher played the piano while each pupil put away his work and helped to put the room in order. Every child found something to do toward making the room neat.

As soon as his work was completed, each child took his place in a group around the piano, and some songs were sung.

Then followed a few minutes' conversation about general matters in which the teacher was endeavoring to establish high ideals in group consciousness. In each case discussed the pupils were asked to decide the issue.

The teacher then appealed to the pupils' curiosity concerning a card which had been placed near their door that day. The pupils did not know what it said; so the teacher explained that a similar card would be placed in every room that the pupils might know just what to do in case of fire. This furnished the motive for a very interesting reading lesson.

The pupils gave directions that they thought were suitable for a fire drill, and the teacher placed them on the board to be read. Each rule on the official card was written on the board and put into execution up to point of leaving the room.

Conference.

S.: Miss R., I should say you come as near having a typical society as I have ever seen in a school. One of the remarkable features about it was the way in which the teacher was the guiding force without appearing to dominate the situation.

Have you any problem in mind that you would care to discuss with me in regard to any phase of your work?

T.: The whole thing is one big problem. It's all so new to me that I never feel sure that I am doing the very best for the children.

S.: As long as you are making their welfare the first consideration, I should say you won't go far wrong. You are getting a fine group consciousness, and those children are beginning to have considerable judgment in settling matters of group interest.

There was a real life interest in the reading lesson. Do you have difficulty in developing your reading from a life situation?

T.: It doesn't always appear quite so appropriate or have quite so much opportunity for action as our subject this morning.

S.: Sometimes a little excursion trip to the park or to the country will furnish the motive for many reading lessons. When these little lessons are printed on pages for the child to bind in book form, he is happy to take them home as a choice gift.

T.: I am glad of that suggestion. I can see great possibilities there.

S.: We have just received some printing outfits with very small letters, quite suitable for such work.

T.: I shall be glad to talk to you again, after I have planned the trip.

S.: Please feel free to call upon me any time for any help that I can give.

Would you be willing to have a group of first grade teachers from here in the city visit you for a half day, and get the inspiration of your experiment?

T.: You make me feel that I am accomplishing some of the things for which I am striving. I shall try to pass it along to the best of my ability.

S.: You will probably get some good ideas from your conference with these other teachers in regard to the work.

Comment.

The supervisor showed skill: (1) in showing sympathy and appreciation; in letting the teacher know that she realized the difficulties of such experimental work; (2) by having a definite help to suggest that would lead the teacher on to greater enthusiasm; and at the same time giving her confidence in her own procedure; (3) by building up an understanding with teacher that would lead to mutual confidence and growth; (4) by providing for an extension of these good ideas among teachers who most needed them.

GRADE 4A. GEOGRAPHY.

Problem on blackboard: Why is New England a great manufacturing region? As the lesson developed, it was evident that the teacher's purpose was to develop correct methods of study in attacking a problem; and to make the pupils conscious of their method of work. For this purpose, she asked questions like the following: "What do we already know that will be of help?" "What else may we do to help solve the problem?"

The following ideas were developed:

1. Use maps and descriptive matter in the text because that helped last week;
2. Ask mother;
3. Consult other books.

After these suggestions had been discussed by both teacher and pupils, the teacher asked how to use the text. The pupils suggested the use of the index and the table of contents. With this preparation the pupils worked with great interest to locate cities. In trying to help slow pupils how to find cities on the map, one boy said, "By black letters." The teacher showed him that his answer meant nothing; and he offered this answer, "We know the cities by the black names."

The slowest pupil finally found Augusta, and said that it was a manufacturing city because it was marked with a dot and circle. She was helped by others until she saw that her answer was wrong.

The idea was then developed that Augusta is on a river, and how that might help manufacturing.

Pupils were directed to find out about five other cities before the next recitation: from the map first, then verifying by reading the description in the text. They were encouraged to do all that they could without help.

The supervisor considered the lesson unusually good and wished to encourage the teacher in continuing along the same line of procedure. She also wished to suggest some new lines of thought leading toward improvement.

Conference.

S.: Miss P., that recitation was of unusual interest to me. You seem to have some very definite ideas of what constitutes good method of work in geography. I should say you were trying to emphasize with that class the following points:

1. Planning a method of attack.
2. How to use the text.
3. Carefulness in expression to state a definite meaning.
4. Being able to give a reason for an answer.
5. The value of independent effort.

Have I indicated in general the plan for the recitation?

T.: I am glad that you could see so well what I was really trying to do.

S.: You were getting some splendid results there, which showed that already the pupils are getting some established habits. Do you think it is always safe to depend altogether upon intellectual curiosity as a motive?

T.: No. Perhaps it is not; and yet the pupils seem interested.

S.: I believe a good teacher can make almost anything interesting. but wouldn't you think it wise to base these lessons on a life interest?

T.: Yes. I think that's a point that should be considered. I wonder what would be the best basis of interest in that problem.

S.: What phase of manufacturing most closely touches their lives?

T.: I might have started the study by appealing to their curiosity as to what materials were used in their clothing; and then they would have seen the close relation of manufacturing to their own lives.

S.: You have a good thought there. I shall be glad to see how you can work it into your plans. Had you thought, Miss P.: of what it might mean to your pupils to visit one of our local manufactories? It sometimes helps to clarify their own ideas better than a class room discussion can do. Of course, the process of manufacturing cannot be classified as geography, but I think you will find when you become interested in it that the possibilities for making geography work concrete are very numerous.

T.: I shall be glad to study the idea further.

S.: You will find some good suggestions in McMurry's "Special Methods in Geography," also Sutherland's "The Teaching of Geography," and Redway's "The New Geography."

Just one other point I should like to raise. Are you emphasizing these same habits of study in other lines of work?

T.: To some extent. Geography has so many difficulties for fourth grade pupils that some of my methods have grown out of a specific need.

S.: And yet I am sure that you will agree that these same habits are worth emphasizing. I should be glad if you would notice to what extent you can emphasize method of work in all subjects, giving especial attention to what extent we can make pupils conscious of their own methods.

Next month we shall be glad to have a report from you at the regular teachers' meeting. Our general subject will be "The Importance of Correct Methods of Work on the Part of Pupils."

Conference.

Skill was shown by the supervisor: (1) in showing that she had given thought to the recitation; (2) in showing appreciation and listing the strong points in the recitation, thus creating a sympathetic atmosphere which gave added strength to the suggestions for improvement; (3) in leading the teacher to see her own way toward improvement; (4) in emphasizing definite points of educational theory and practice; because the following items are so closely related to method of work, it was possible to emphasize them in one interview: finding motive in life situation; value of execursion trip; providing for growth of teacher by suggesting specific references for reading; organization of methods of work in all subjects; (5) in recognizing this teacher as a leader and providing for a cöoperative interchange of ideas at the general teachers' meeting.

GRADE 1. READING.

Time, one hour. Each child had prepared a different story,—in most cases from a different book,—to read to the class. The pupils were seated on a rug or on chairs in a group. Five minutes were suggested by teacher for each pupil to look over his story. Pupils were entirely engrossed in their own pursuit, and took no notice when teacher left the room for a minute.

Motive as stated by teacher: "Listen attentively so that we can choose the best stories to be finished tomorrow."

Nine of the twelve pupils read their story or a part of it. No comment was made as to the quality of the reading. The teacher maintained an interested attitude; the pupils helped each other over difficulties whenever possible. No one was hurried. A natural attitude of real interest prevailed most of the time. A few pupils took time to show the pictures accompanying the story. At the close of the recitation the pupils voted for the stories which should be read next day.

Conference.

S.: Miss B., I considered the recitation which I heard in your room last week one of the best I have ever heard in first grade reading, but I think this one today was even better.

T.: I should be glad to hear in what way you think we have improved.

S.: There was a much more socialized atmosphere today. The pupils were feeling their responsibility as listeners, and also as contributors when it came their turn to read.

T.: We have been trying to emphasize that thought since you gave us your suggestions last week.

S.: Do you have any particular reason for extending the reading period to such great length?

T.: None; only that it gives opportunity for more pupils to read.

S.: I noticed a few pupils grew tired and left the group to get their weaving or other hand-work. It was fine that they felt at liberty to do that; but I wondered if that were not a good indication that the period was too long.

T.: I think that is a point to be considered. We do not often have such a long recitation.

S.: At our last interview we discussed the value of a defінte theory on the part of a teacher engaged in experimental work. You convinced me that you had some very definite theories. One chief thing that stands out in your work is the fact that the subject-matter in first grade reading is books; books of many varieties, but all interesting from the child's viewpoint.

Just what will be your basis of promotion, Miss B.?

T.: I believe when a pupil shows power or ability in attacking new work to the extent that he seems able to do the work of the next grade, then he should be advanced.

S.: Do you hold each pupil responsible for any definite, specific facts, say, a certain ability in phonics?

T.: I am not stressing that particularly, except as it is needed in the reading of each pupil.

S.: I think that is a point that needs to be watched by those engaged in experimental work. I should by no means advocate formal drills in phonics for the sake of mechanical routine; but when the need arises and each child sees the need, then wouldn't you think some very definite drill and clinching of facts highly desirable?

T.: Yes. Perhaps I have not improved every opportunity to strengthen their control of phonics as often as I should.

S.: I shall be glad to follow your experiment along that line if you see your way toward trying it without a sacrifice of some of the other features that are proving worth while.

Do you ever have general discussions by the pupils as to what consitutes good reading, or why they liked to hear certain pupils read? In the lesson today they seemed more interested in the story than in the way it was read. I think that is a correct emphasis, but I have wondered if it is possible to begin to get a somewhat conscious attitude of what is needed in good oral reading.

T.: We sometimes talk about it a little, but first grade pupils are so inclined to be over conscious of emphasis, that it seems safer to trust to their interest in the story.

S.: You may be quite right in that view. It's a point I am watching all through the grades. I shall be glad of any suggestions in regard to it.

Comment.

The supervisor showed skill: (1) in following up the work of the teacher, and keeping definitely in mind her success and needs; (2) in noticing and commending improvement that had resulted from their previous interview; (3) in pointing out to the teacher a very important danger in experimental work, and indicating a line of procedure; (4) in admitting that her own opinions were subject to change, and that she was watching results and formulating opinions all the time.

SPECIFIC VARIETIES OF MENTAL DISCIPLINE AS OBJECTIVES OF SCHOOL EDUCATION

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(From an address before the Short Term Institute, March 31, 1921, at Ann Arbor, Michigan.)

All education, but perhaps most conspicuously that for youths from 12 to 18 years of age, is now in search, either of proofs of the validity of objectives now held, or of more certainly functional objectives. We can readily agree that whatever schools are attended by youths of these ages should, supplementing previous schooling and the concurrent educative effects of home, church, playground and community living, advance them all in a few respects at least, and some of them in many respects, toward higher forms of personal culture, good civic behavior, and conservation of health. For some, certainly, the schools they attend after 14 or 15 years of age should train them toward specific objectives of vocational competency.

Teachers must carry on their work from day to day under convictions of the assumed validity of certain more or less well-defined objectives. These convictions are necessarily for many only faiths erected on authority—as indeed are the faiths of most of us in the sphericity of the earth, the earth's orbital movement, the former existence of an Alexander the Great, and the like.

The growth of knowledge—perhaps first the possession of very few—makes it necessary to revise these educational faiths of ours from time to time; but meanwhile we must keep on doing the day's work as best we can. Even when, in any particular field, scientific inquiry has explored and mapped new regions, there still remain a large number of problems for men who would make practical use of the new knowledge.

It is my purpose here to discuss a few of the very practical problems of producing in education those results, valuable to individuals and to society, which common sense everywhere recognizes and crudely assembles under the generalized term "the trained mind." For it is obvious that, yielding ourselves for the moment to the opiate-like effects of unanalyzed general terms, we can recognize, as men have always recognized, other things that might be called the "trained hand," the "trained or disciplined body," the "trained (or severely formed) moral character," and the like. We similarly generalize when we speak of a trained dog or a "trained plant."

The "trained mind," like the trained hand or the formed moral character, is something that men have always recognized in their social environment. But, notwithstanding the vague and often equivocal denoting words employed, it is practically certain that experience with "trained minds" is always particular in its nature. Heredity, of course, gives variable basic qualities, perhaps very general in nature, just as it gives bigness and native strength of body, or wholesome balance of instincts and temperament toward moral character. But the things we perceive and admire in those about us are certain specific powers of observation of the Indian tracker or Esquiman seal hunter no less than those of the proofreader, bacteriologist or detective. Some of our associates tantalize us by their excellent memories of faces and names, others by their powers of quoting poetry "from memory." The historian is skilled in making one kind of deduction, the practical politician another, the farmer a third.

Some superficial readers (or auditors) seem now to reach the conclusion that "there is no such thing as mental discipline." But that is no less absurd than would be the conclusion that there is no such thing as "curing disease" or "training the body" or forming moral character.

As I understand it, the most that recent psychology has done in this direction has been to throw doubt upon what might be called the "panacea" theory of mental discipline. When men claimed that the study of Latin "trained the power of observation," no matter to what concrete situations it might conveniently apply, the generalization did assume a uniform underlying power or "faculty." Hence activities that trained one species of the faculty necessarily strengthened, if they did not actually train, all others. We can think of primitive physicians who, recognizing in a variety of diseases the excessive heat characteristic of fevers, would find some quinine-like remedy that would mitigate one of these fevers. A natural inference would be that quinine was a "panacea" for all fevers. Now modern education, like modern medicine, tends toward disbelief in panaceas —whether they be Latin for "powers of observation," plane geometry for "powers of reasoning," woodworking for "powers of exactness," poetry for "powers of imagination," or English grammar for logical thinking. True, there still persist many old fallacies. Even college professors in scientific fields still urge that secondary school and junior college courses in physics or chemistry or biology shall be designed largely to teach "scientific method." It is submitted that there may be as many unlike kinds of "scientific method" for education as there are fevers for medicine—and there are no panaceas or other "simples" even for the production of the "scientific spirit"!

PRELIMINARY ANALYSES.

In order to clear the ground for discussion of some more "functioning" objectives of a disciplinary character than we now have in education, it seems necessary, therefore, perhaps at the cost of seeming triteness, to restate certain conclusions as to which, so far as I know, common sense and modern psychology are in substantial agreement.

By the use of proper direction and practice it is practicable at all times in life, but especially in youth, to "train" human beings in almost numberless directions to degrees of proficiency far beyond the limits ordinarily reached by what can well be called the "natural growth" processes. But, speaking in terms of analytically studied general experience, these forms of possible training are always relatively specific.

We may, for example, speak of a "well developed" hand. Within limits set by heredity every child, under the nourishing effects of sufficient good food, adequate rest, ample play, reasonable social stimulation, and normal freedom from contagion, attains in mature years to "well-developed" hands.

But "trained" hands are something different. In daily life about us we observe numerous specific effects of such training. Most of us can perform, after long and sometimes painful learning, those difficult operations of fingers and arm which we call handwriting. Some of us can do wonderful things with our fingers on piano keys. A few can give one or more varieties of "curve spin" to a baseball. Self-reliant children under proper tutelage early learn the intricate co-ordinations involved in buttoning. The effective use of that ancient tool, the needle, requires exacting special forms of manual training. Men who make skillful use of hammers, shears, screwdrivers, rifles, knives, typewriters, razors, bank notes, paint brushes, and the like must acquire, through painstaking effort, the needed manual facilities.

All of these varieties of training are, of course, "mental" at bottom, in spite of our free use of the convenient term "manual." No thoughtful person is now misled into thinking that those Punch and Judy puppets, the fingers, actuate themselves. The strings are pulled from behind and chief credit for the "trained" performance must obviously be given to whoever or whatever it is that pulls the strings.

Indeed, it may be that in the case of various kinds of trained hands, we have to do with many performers, if the fancy may be pressed for illustrative purposes. We can imagine a man who is a skilled penman, a competent pianist, and an excellent billiardist. The same finger bones, tendons and muscles are used in each type of activity, and our incomplete knowledge of what goes on to the rear of the scenes leads us to think of a single directing "mind" behind all these skills. But practical experience informs us that when we have trained a youth to be a skilled penman we have not thereby trained him to be a pianist. So far as we know, the trained pianist, wishing to master billiards, must start on the same lowly plane as the rest of us. Perhaps the analogy of the phonograph may be as helpful as anything here. The "trained" horn, diaphragm, needle and motor give us, now "Rock of Ages," and next "Tipperary"—according to the record inserted into the mechanism. But, after all, it is to the specific record that the distinctive effects are finally due, though an uninformed observer might ascribe them to the diaphragm or to the motor.

Now, "observation," "reasoning," and even "imagination," are, in the last analysis of their numberless varieties, probably no more mental than are the varieties of manipulative activities referred to above. Their channels of manifestation are different, of course, as are possibly many of their concomitant activities and as well as their values—at least to civilized men. But it may well be doubted whether they involve any very different pedagogy. For illustrative purposes we can take the qualities conveniently assembled under the word "observation."

Nature has provided that man, like the animals, should develop under the conditions of "natural" growth a great variety of powers of observation. Nature's original contributions here to various men are probably no more uniform than are her contributions to size and native strength of body, or natural flexibility of hand. But within the limits set by inheritance, man is capable of supplementing his "natural" powers of observation by specific forms of training. Given specific direction and practice, he becomes what a man, untrained in these respects, thinks of as marvellously observant of animal tracks, of stars, of wild plants, of faces, of typographic errors, or of word endings. Extending the term to cover other senses than sight, he can become "extraordinarily" observant of musical discords, of tea flavors, of changes of temperature, of characteristic disease odors.

Here again it is obvious that the real basic centers of training are not in the sense organs, but in the directing, registering, co-ordinating and interpretating agencies behind. The naive metaphysics of popular thought compels the postulation of some kind of single agency or faculty for this purpose. Even men who should be readily capable of interpreting practical experience more analytically easily become the victims of general terms here, especially when the very vagueness or ambiguity of these terms serve the purposes of obscuration or propaganda, as so often happens in politics, theology, and education.

The perfectly obvious fact is that we can, with adequate control and effort, train human beings to be respectively very observant of stars or of leaves, of clothes or of faces, of flaws in cloth or flaws in music. We can imagine a man who has gone far beyond the average in being observant of the niceties of typography, the colors of flowers, and the technique of pictures. But he will at times associate with a friend who is no less observant than he toward flowers, but who is uninterested and largely oblivious to distinctions in typography or in pictures.

The exigencies of preserving life under competitive conditions induce men from childhood to let grow, as well as compel them by their own efforts to reinforce, certain specific powers of observation, according to environment and need. Hunter, fisherman, stock raiser, miner, burglar, shoe black, lawyer, bookkeeper, locomotive engineer, primary school teacher, aviator, translator, politician, poet, priest—each in his mature life has his special stock of trained powers of observation. No one seriously denies that education can produce these, within the limits set by nature in each individual. All purposive education, in or out of school, has always been designed, among its other ends, to produce them. But mysticism here, as in religion, medicine, and science, has often made blind the leaders of those not yet able to see.

But the exigencies of school routine or of educational theory, and especially in times of rapid evolution either of demands for more education or of new purposes, force men to claim certain kinds of magic virtue for specific, and often traditional, processes. Theologians, physicians, and statesmen have often found it expedient to resort to analogous devices.

But now education, as was said above, follows medicine in discarding faiths in old panaceas. (We may be in for a period of sentimental beliefs in new nostrums, however. There appears no small amount of "faith healing" in our schools today, especially in those areas of young childhood, where sentiment is most readily enlisted.) One of the foremost educators of the closing decades of the last century could say, to generous applause, "It matters far less *what* we teach in high schools than *how* we teach." Best informed opinion would today whole-heartedly reconstruct that dogma; "everything (for good education) depends upon *what* we teach (of value to the adult individual and to society) provided that in teaching it we use *methods* appropriate to the objectives thus determined."

For the time being, therefore, faiths in panaceas of mental discipline are on the wane. "General training" from specific studies as an objective is viewed with deep suspicion. But we need not spill out the baby with the bath. Mental disciplines, properly defined, remain as among the most important purposes for the schools—especially important because to so large an extent, in the forms demanded in modern life, they represent the things that only schools (as contrasted with such non-school educative agencies as the home, shop, party) can give. Educators should try assiduously to disentangle from our contemporary vocational, civic and cultural life those objectives of mental discipline of great significance to our civilization which can be made objectives of school education.

REQUIREMENTS FOR VOCATIONS.

Needs for "trained" powers are probably most acutely felt by adults in connection with the vocational demands of civilized life. (It can be assumed that, sociologically, the defensive practices of men who are not professional soldiers constitute, in time of public danger, auxiliary vocations.) If we subject to quantitative vocational analysis the scores of specific powers making up in middle life the "success" or vocational proficiency, respectively, of super-average barbers, gardeners, bookkeepers, salesmen, public office holders, cooks, job printers, teachers, surgeons, chauffeurs, shoe factory operatives, coal miners, sailors, actors, and the like, we shall find that each class stands high in respect to certain fairly clear, and often very specific, powers of observation, concentration, imagination, memory, precision, and the like. These have been produced, upon plasticities given by heredity through prolonged "vocational training"—at first imposed from without by vocational school, apprenticeship, or foremen, and later by efforts largely self-directed.

Practically all workers are in their early years employed under supervision. Employers are always searching, naturally, for the "most promising material"—the worth of which is commonly much more due to heredity or early home environment, and much less to schooling, than either educators or employers usually think. The best available youth or young manhood being found, there then begins focalization of attention, directed repetitive practice within delimited areas, elimination of ineffective procedures, formation of specific skills, increase of specific knowledge, cultivation of particular appreciations and ideals—and in time we have the trained worker, the successful producer of economic utilities.

It is obvious, of course, that every successful kind of vocational school—for army officers, physicians, stenographers, elementary school teachers, machinists, nurses, singers, waitresses, and poultry growers—simply organizes, economizes, and intensifies the processes elsewhere carried on through apprenticeship or through enforced "pick up" methods. Each vocational school works hard to produce those particular varieties of trained hand, trained speech, trained character, trained body, trained sense, or trained "mind" that experience shows successful practice of the particular vocation in view to require. (No harm need result from the use of these general catchwords so long as we do not fall victims to their indeterminateness—so long, that is, as we stand ready mentally to supply the needed concrete qualifying terms when required.)

Hence it should not prove difficult to determine for school purposes, at least qualitatively, the desirable objectives of "mental training" in vocational schools. (It may prove endlessly difficult to give them scientific quantitative formulation, however.) The processes of contemporary "job analysis" are showing the way. In the case of vocational schools with several decades of history behind them, "trial and success" processes have already done much, where not baffled by long adherence to wrong principles of pedagogy—as witness the superiorities of the modern schools of law, nursing, and agriculture, among others.

In some cases there will be found, in schools not devoted primarily to vocational education, prevocational subjects properly so-called. Already established examples are: algebra and trigonometry in high schools for prospective engineers; pre-medical biology and chemistry in liberal arts college; pre-machine shop drafting in a few high schools; pre-commercial typewriting or penmanship in junior high school. These are all necessarily elective offerings in the schools in which they are found. It is entirely proper that these prevocational subjects be presented by such methods as will involve rigid forms of specific discipline appropriate to the vocational uses to which such subjects shall later be put.

REQUIREMENTS OF CIVIC LIFE.

The constant increase and diversification of the civic responsibilities of adults in modern democracies suggests that for the proper discharge of these responsibilities there should somewhere be found specific forms of mental discipline no less than "moral discipline." Unfortunately, one of the obvious, but, we must hope, temporary, fruits of abundant democracy seems to be a quite general opposition to any form of close discipline whatever, especially among adolescent citizens. Not a few citizens are, indeed, in a sense "perpetual adolescents" in their hostility to rigorous control or training, physical or mental.

For the present, however, first blame must attach to the schools rather than to citizens for the low state, as respects mental discipline, of that education which is expected to function primarily in more efficient citizenship. What schools and colleges have offered as civic education—memorization and other drill on the anatomical details of history, verbal study of the skeletal structures of national and state government, didactic presentation of the desiccated principles of economics—have usually lacked the essential characteristics of "functioning" disciplines. These studies have usually been hardly more realistic, vital, and convincingly "related to life" than have been algebra, Latin and the eighteenth century classics. We ought to be able to devise better disciplines than these, and we can, given an appreciation of the need, and time for experimental work. The following are submitted as examples of right objectives carrying their own suggestions of method:

a. The citizen today must act largely in the light of the suggestions coming to him from the press. In federate societies where nearly all legislative, executive and judicial functions must be discharged by representatives, most of whom the voter has never met, and where proposals of policy, originating from a few creative minds, must be widely discussed and criticised, the individual citizen is very dependent upon what he reads.

Now the *socially efficient* citizen of today—that is, the citizen whose contributions to public opinion and practice through discussion and voting make for good public attitudes, good government, and social well-being generally—is the citizen who brings to his civic reading one large variety of that multifarious group of disciplines comprehended under the omnibus term "scientific method." He lives in the midst of the persuasions of daily, weekly and monthly journals of more or less partisan bias. He is incessantly beset by the suggestion of newspaper headlines, the legends and cartoons of billboards, and the subtle arguments of editorials. He is like a judge listening to the arguments of opposed attorneys and the biassed testimony of witnesses, some of whom at least he can well suspect of deliberate dishonesty.

It is through this maze of printed suggestion that the efficient citizen laboriously picks his way toward the truth, toward fair dealing, and toward sound civic decision. Obviously, this is a task for which men can be trained. Are our schools or colleges of any considerable service in this form of training now? It seems doubtful, to say the least.

And yet here is a field of the most positive, direct, and fruitful kind for the promotion of mental disciplines in schools. These headlines and billboards, sensational news items and editorials, journalistic commendations and fault-findings, are no less accessible to our junior and senior high school pupils than to our adult citizens—and often, with some guidance from teachers, they are no less comprehensible to our junior citizens. Why should not our teachers of civics exact of these still plastic citizens in the making very substantial amounts of "training" in the critical examinations of partisan methods, the comparative study of *ex parte* contentions, the search for most probable sources of truth? Every specific strand of habit, appreciation, knowledge, ideal thus acquired will probably be functional in the situations later to be encountered in adult life. Why force the learner to "work" his brain in disentangling the dead and buried complexities of Roman or Elizabethan or even early American politics when, for ten or fifteen cents can be procured an armful of truly "original documents" wherein to decipher today's battles and to anticipate sound civic tactics for tomorrow?

"Relate education to life!" Certainly. But the wealth of printed documents which clog our mails at election time are the vital pulsating expression of our present political life. Only minds disciplined to deal with this kind of material can be our best and safest citizens. Now we leave that discipline largely to chance or to the self-directed efforts of a few far-seeing spirits. Living in Newcastles, we bring some pitiful coals from afar and wonder why our costly efforts are so futile. The third chapter of H. G. Well's New Machiavelli has still a message for most of our schoolmen.

b. There exists a second very practicable avenue for the development of disciplinary education directly in the interests of good citizenship. It is a truism that the largest source of contemporary political problems is found in our modern complex economic life. Once government needed to concern itself with the economic life only to the extent of protecting property, levying fair taxes, insuring uniform measures, stabilizing currency and mildly regulating international trade. Those days of simplicity are gone. Now government seems fated to affect our economic activities in a thousand of their most critical parts and processes.

The well-intentioned citizen of today is confronted at all times when he must vote, and at other times when he must contribute to the formation of public policies, by economic "problems" some of which are no less intricate in their mechanical aspects than are mathematical problems, and the solutions of which are far more elusive because of the ethical factors involved.

But many of these problems, given a proper setting and exposition, are no more difficult than the arithmetical, geometrical and algebraic problems with which, for generations, we seem fruitlessly to have taxed the minds of our youth, especially from the ages of 12 to 18. There is no harm in giving youth hard nuts to crack, provided the nuts are known to have kernels and provided the labor required is not so prolonged as to exclude time and spirit for the necessary more developmental or naturalistic kinds of education. But it is surely wrong to ask youths to crack many hard nuts that are void of kernels.

Can we educators not devise courses in vital contemporary economic problems, adapted to boys of average intelligence of 12, again of 14, and again of 16 years of age? Let them be *hard* problems. Let them be so arranged as to require closest attention and reasoning for their solution. Let them exact sustained and concentrated mental effort no less than do problems in mensuration, with equations of two or more unknown quantities, or in the application of sine and tangent.

Our prospective citizens, cutting their intellectual teeth on these problems, will thus be acquiring specific forms of mental training that will be functional throughout adult life. With reference to such training certainly no mystical uncertainties as to "transfer" need be encountered.

REQUIREMENTS FOR CULTURE.

"Culture," in any distinctive and adequate meaning of the term, involves relatively few "powers of execution" or "performance powers"; but it does involve a very wide range of "appreciations." Appreciations visibly grow in all social environments, upon bases of instinct, through imitation and other experience. The psychology underlying the teaching of various forms of appreciation seems yet too obscure to enable us to speak with confidence of the practicability of "training" powers or capacities of appreciation. Perhaps we shall yet find that acceptably functioning varieties of mental discipline can be had in training toward definite appreciations for adult life.

Some of the "perfomance powers" essential to the culture of adults in modern civilization are, however, acquired in early youth. Silent reading, handwriting, spelling, "consumers" arithmetic (as distinguished from vocational arithmetic) and a few essentials of oral and written composition are the most obvious of these. Somewhere in the grades are acquired formal masteries of certain salient elements in geography and in American history, the accurate mental retention of which constitute in effect also "cultural performance powers"—or "intellectual tools," as they are sometimes called.

It is obvious that, with reference to the acquisition of the foregoing powers, efficient education should employ the maximum of mental training essential to their permanent functioning. The handwriting habits established in youth should be so deeply fixed that they should persist, throughout adult years, only adding "character." Indeed, it might not be inopportune to try to establish at the same time certain permanent ideals of legibility or grace of handwriting which, like ideals of good manners, would remain functional throughout life. Each elementary school subject designed to establish enduring "performance powers" should, therefore, be accompanied by its due measure of exacting mental training. (Let it not be assumed that such specific training is not practicable under the "project method"; it is too early to say with confidence what is, and what is not, practicable under that method.)

The second large field for mental discipline of known kinds in cultural education is found in the freely sought cultivation of specialized powers. A cultured society is assured only in part by bringing all persons up to certain levels of performance or appreciation. Beyond that is needed endless diversity of specialized powers and tastes.

We can imagine a city with high cultural standards in which a small fraction of the adults would be, quite apart from their vocational pursuits, devotees of the Greek and Roman classics; another fraction enthusiastic amateur violinists; a third group would be eager naturalists; whilst still another would devote themselves with much zeal to the study of Chinese and Japanese languages and literature.

To these varieties of specialized cultures there is every reason why school and college should contribute through elective courses so organized as to attract only the talented, and so conducted as to retain only those willing to subject themselves, for "love of the goal," to exacting processes of training. Obviously, then, from these sources are to be derived numberless forms of "functioning mental training."

THE VALUE OF STUDENT-TEACHING IN A TEACHER-TRAINING COURSE, AS JUDGED BY GRADUATES OF ONE, TWO, THREE AND FOUR YEARS' EXPERIENCE.

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Writing in the February, 1921, issue of EDUCATIONAL ADMINISTRATION AND SUPERVISION, on the subject: "Virtues and Defects of Normal School Training as Seen by Graduates of Two, Five and Ten Years' Service," Professor J. A. Kirkley of the Sam Houston Normal Institute, Huntsville, Texas, made this surprising statement: "Another defect of Normal School training that was almost universally mentioned was *lack of proper practice teaching.*"[1] He went on to say that some of the graduates reported to him that they had had little or no practice teaching; that some had merely been required to take charge of classes of which they were members, and to conduct the recitation; that graduates of more recent years fared little better, although they, with few exceptions, spoke of their practice teaching as a *farce.*[1] These facts have struck me with startling force, for they are so contrary to what I have known to be true in the experience of our own normal school and contrary to what I had believed was generally true. Throughout the entire forty-seven years of the history of the State Normal School at Worcester student-teaching has been an indispensable part of its work, and during my twenty-two years of experience in the training of teachers I have found student-teaching to be one of the most valuable parts of the teacher-training course. Our faculty is unanimously agreed in the belief that the practical experience of classroom teaching is essential to provide an understanding of the principles gained in the method classes. We believe that knowledge of the principles alone does not give ability to teach; that the proper use and application of principles which are equally necessary must also be learned and that these can only be learned in situations in which actual teaching is required to be done. For this reason we have made student-teaching one of the most important factors in the training, and out of the seventy-six weeks of a two-year course[2] we devote to it nineteen weeks of four days per week, with all-day sessions in the classroom.

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[1] Italics are Prof. Kirkley's.

In preparing a paper for a meeting of the National Council of Directors of Student-teaching some time ago I desired to secure confirmation of my convictions by the direct testimony of recent graduates of the Normal School. To secure this testimony I sent out to the graduates of 1916, 1917, 1918, 1919, and 1920 the following questions: To what extent has your experience in the student-teaching of the Normal School aided you in economizing time in the preparation of lessons? in teaching? in planning work? in obtaining definite results? in managing pupils? in caring for the physical condition of the school and of the pupils? in giving you confidence in your resourcefulness?

I desired to get their reactions to their experience in student-teaching, to know if the importance that we at the Normal School give to it was fully realized by them, and if it was considered as valuable as we believe it to be. The answers which I received in reply to this inquiry have been emphatic in their appreciation of their experience and training in this department, even to the extent of regarding it as invaluable. They have testified that instead of being a farce it was most practical and thorough, and gave them a preparation and confidence for their work that would have been utterly impossible without it. They are unanimous in their high opinion of the training received, of the high quality of the supervision given to the student-teaching and of the direct relation which it has borne to their own success in teaching.

Believing that it will be valuable to teachers generally to know the character of this testimony of teachers who have had this experience in student-teaching, I herewith submit extracts from some of the letters received from these recent graduates of our normal school. They were chosen just as they came, without any attempt to pick out the most flattering. It is, I believe, fair to judge that the evidence which they furnish is about as direct evidence as could be desired to substantiate the belief that the work in student-teaching is one of the most valuable and effective parts of a course in teacher-training; that without it the theoretical study is unfinished; that only with it is the course properly balanced, and in a professional sense made a complete whole, and that it is a form of training with vast possibilities for effectiveness in producing capable teachers. The testimony is as follows:

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[2] In the 3-year course 28 weeks are devoted to it.

1. Graduate of 4 years' experience.

"As I look back to my first real teaching day, I know that I could never have faced a class or have had any definite aims of work in my mind without that training (student-teaching). There may be some who are born teachers and could be a success without student-teaching, but for myself, I know it was invaluable and every phase of it has helped me throughout my experiences."

2. Graduate of 4 years' experience.

"After having become familiar with the different types of lessons during our student-teaching, I can now appreciate the great value of each. I admit most frankly that much time is saved by having a definite plan of a lesson and the teaching of it is more interesting and easier to the teacher and the children profit by this preparation and teaching. If we were to have started teaching without student-teaching, how hard it would have been to have been placed before a class of children with no ideas as to how to proceed with a lesson or how much time to allow. Our supervisors chose wisely the appointments they gave us. We had opportunities to observe and teach many different types. We found some classes much brighter than others, some more active than others, and it proved to us that different types must be met with and dealt with in different ways. My experience in student-teaching seems to me to have been a training in many ways. We gained in self-confidence, we knew we were preparing for a good work and a valuable work, but now we can appreciate those things more and more, and each day we feel we can do more and more to help our children to become true citizens. I can now most thankfully say that I appreciate having had this experience and thank those who were so kind and helpful."

3. Graduate of 4 years' experience.

"My experience in student-teaching at the Normal School has aided me to a great extent in all the points mentioned. The lesson in all its parts,—preparation, planning, teaching, and its results have been of course dependent upon the work required and upon the supervision. But the fundamental basis of it all, obtained through the student-teaching, has been always at hand to be adapted to the various cases. School-room management and the physical care of both school and pupils have been always easy in part because of information secured in the Normal School course."

4. Graduate of 4 years' experience.

"I consider the student-teaching the most valuable part of my whole Normal School training. In this work I learned to economize time in planning my work for my classes. In the class work at the Normal School my plans were made for an imaginary class. My student-teaching work afforded me a real class with aims and difficulties peculiar to child life. I know the making of plans daily for a year helped me to form a habit so that today I can plan a lesson many times on a moment's notice. One of the greatest benefits I derived was the confidence in my own resourcefulness."

5. **Graduate of 3 years' experience.**

"As exercise strengthens the muscles, so I consider my student-teaching strengthened my theoretical methods of teaching. My experience, during my student-teaching, was with children between the ages of five and seven years. My work since then has been with children of corresponding ages. While practicing I was able to form a general idea as to the interests, needs, tendencies, etc., of the average child. Now in preparing a lesson I can economize time by having a realization of what my children can accomplish and what they most need. In presenting a lesson to children, I know, through observation, in what ways I can appeal to them most effectively. I am better able to deal with unexpected questions and usually foresee the possible questions which may arise. I have learned that children learn much through play and so do a great deal of teaching using play as a medium. Thus the children are aroused both physically and emotionally and their attitude is established. During my student-teaching I discovered that those teachers who obtained the best discipline were those who had established friendly relations with the children. With that in mind, when I deal with a group of children my first aim is to have them realize that I am their friend. If this feeling prevails I think no teacher will fail to manage her school properly. One of my greatest handicaps in my student-teaching was lack of confidence in myself. I was able to overcome this, to a certain extent, by being given the opportunity to teach and to discover for myself just what I could do as a leader. Oftentimes I was surprised at the suggestions that would result from unexpected situations. I gradually learned to think and act more quickly and to make use of all my faculties. 'We learn to do by doing'."

6. **Graduate of 2 years' experience.**

"I feel that my experience in student-teaching at the Normal School has helped me very much. During that time I learned how to plan work. I also learned the value of having a definite plan of work for the week or month for economizing time in teaching as well as for obtaining definite results. The practical experience given each of us in the Normal School of managing pupils and caring for the physical conditions of the school and the pupils naturally developed resourcefulness and confidence in our own resourcefulness."

7. **Graduate of 2 years' experience.**

"The student-teaching at the Normal School aided me to a great extent in each of the ways mentioned in your questionnaire. Because there were a certain number of lesson plans to be made every night and because it was necessary to have them fully and clearly done and ready for the inspection by a supervisor at any time, I learned to economize time in preparing them. In trying to look at my own work as I felt the supervisors were doing I realized more fully what 'teaching' really meant. I found in the student-teaching, as I find in my own school, that if the children are thoroughly interested they will manage themselves and that if they are given the responsibility of their own discipline and made to feel proud of it they will discipline themselves almost entirely. I feel that my school goes much more successfully and that I am much happier in my work because of the valuable lessons I learned during the student-teaching."

8. **Graduate of 2 years' experience.**

"I am glad to tell you how much I appreciate the helpfulness of my experience in student teaching at the Normal School. It has been of great help to me in saving time in the preparation of lessons. In teaching, I learned to dwell on the major points of a lesson, thereby not wasting time by talking about too many minor points. In planning my work I learned to make my plans definite if I wished to get results; to plan the lesson in a logical manner and in as interesting a way as possible. I found that much illustrative material was necessary, and reference books for both teacher and pupils were things to be thought of in preparing the lesson. My experience helped me in obtaining definite results by teaching me always to have an aim, to accomplish this aim through interest, and by giving me a knowledge of several methods by which I might obtain the best results. In discipline I found that the teacher who was quiet and self-controlled was the better able to control children. I learned also that it was necessary to win the children's confidence and respect. I am afraid that I did not have as much confidence in my own resourcefulness as I should have had when my student-teaching was finished. But, still, I had learned that to have interest one must have variety, and to have variety one must be resourceful. So when I had my own school, with no one on whom I could depend but myself and my own ideas, I think I had learned, unconsciously, not to be afraid to try any idea that would help to gain good results. On the whole I cannot value my experience in student-teaching too highly, for there I observed the work of excellent teachers, received many helpful criticisms from both teachers and supervisors and gained a good foundation upon which to build my work as a teacher."

9. Graduate of 1 year's experience.

"Through the experience which I gained in my student-teaching at the State Normal School I have been able to save a great deal of time and perform the duties of teaching with much more confidence and a greater amount of success than I could possibly have done had the opportunity not been afforded me. By actual practice, I acquired a clear understanding and a workable basis for the preparation of my lessons, and the methods of teaching them. The time and labor which I was required to spend in managing the pupils; in caring for the room as to the attractiveness, ventilation, regulation of temperature, seating of pupils; in attending to each child according to his or her own individuality in all things, has saved me the hours I would now have to devote in searching for the answers to the problems that would naturally arise. I learned them where the answers were known and I had the opportunity to practice them. Now I am not in a position to discover the facts without a great loss of time and perhaps at the expense of my pupils. As the final result of my student-teaching, I felt the confidence to go out into the teaching world without the need of continual guidance and directing."

10. Graduate of 1 year's experience.

"My experience in student-teaching in the Normal School has been indispensable. I have tried to plan every lesson I have taught by the standards which were held during student-teaching. I know that the student-teaching taught me to save my own time and that of the pupils because during that period I learned that the teacher only succeeds in doing anything when his lesson is prepared and taught so that it calls forth the learner's own mental activity. There have been so many ways in which the student-teaching experience has helped me! The individual, constructive criticism of the supervisors has helped me much, and I have gained by it, and tried to avoid the same mistakes. For the experience of the student-teaching, without which I think I could never have been a successful teacher, but because of which I hope for some small measure of daily improvement, I am deeply grateful."

For the information of the reader, that he may know what these teachers received in their training, a brief statement of the system of student-teaching that is in operation at the State Normal School at Worcester, Mass., may well be given here. In both the two- and three-year courses the same procedure is followed in principle, the differences having to do with the scope of scholarship required, the grades for which preparation is made and the amount of time given to it. The students gain their practical experience successively in a school of observation where the teaching is done by expert trained teachers and is observed by the students in training; in a training-school in which the teaching is done by student-teachers working under skilled supervisors; and in the public schools of the city of Worcester, where they teach as assistants to the regular teachers (all of whom are graduates of the Worcester or other normal schools) and are supervised by skilled supervisors from the normal school.

In the first half-year of their course they take simultaneously a well-organized course in child study and one in directed observation, together with certain methods of teaching, and such subject-matter review as is necessary. After ten weeks they have a week of participation or preliminary practice in the observation school. During the second half-year a second preliminary practice experience of one or two weeks is provided. The more systematic and longer period of student-teaching begins at the opening of the second year. At least four assignments are given either in the training school under expert supervision or in the public schools, where the teaching is also under expert supervision and where experience with varied conditions and grades and types of children is provided. Opportunity for further study of the theory of teaching in the light of experience in practice teaching is afforded at the conclusion of the student-teaching.

The students whose testimony is given above have all had the benefit of this practical experience in teaching under efficient, even expert supervision. It is quite evident from what they have written that in their actual teaching experience after graduation they have proved the worth of the system and are ready to recommend it as practicable and effective. In fact, if applied with intelligence and carried out with a serious effort to realize its full value, the practice of student-teaching should be indispensable in all courses of teacher-training and should be regarded as one of its most valuable parts. This is the unanimous belief at the State Normal School at Worcester, and although the writer does not claim that the procedure with which he is familiar will successfully fit the conditions in other schools, he believes, with the endorsement of his entire faculty, that it is an example of procedure that in this one case at least functions smoothly, easily and successfully.

A BUDGET SYSTEM FOR NORMAL SCHOOLS

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Value of a Budget System.

Questions of public finance in a democracy are always crucial. As government agencies multiply and the corresponding costs advance by leaps and bounds, the tax-paying citizen has a developing interest in any proposed method that claims to include the universally recognized virtues of economy and efficiency. If a budget system is a desirable reform in our national government, as it has proved to be in the states and cities that have used it, then it will be a valuable adjunct in the administration of any school system or educational institution. It is the purpose of this paper to determine the advantages of a budget system, in the light of experience, for the normal schools of the nation.

The proposed Federal budget is a detailed balanced statement of proposed expenditures and revenues which will create in the office of the President of the United States the function of general manager. Congress, through a single committee on appropriations, which will replace thirteen committees, which now divide the work, will approve and adopt the expenditures necessary to coördinate the executive and legislative branches of the government. This will eliminate duplication and extravagance and promote responsible government.

The present system has been likened to a business man with a bank account who gave check books to his eight children, with permission to draw upon the account without control or supervision. In order to provide proper control it is proposed that Congress appoint auditors who will be independent of the departments and the Administration. The duty of Congress will be best expressed in preventing the passing of a bad budget, uncovering duplications, exposing hidden extravagances, and correcting a parsimony that by saving a penny loses a pound.

The high cost of living and the burden of taxation occasioned by the war have emphasized the need for a national budget system and the same arguments will justify it under normal conditions, not only in governmental activities, but in the fiscal affairs of all organizations which expend large sums of public money. The lessons of corporate efficiency should now be applied in the administration of school systems and educational institutions.

What man with an annual income of a thousand dollars would be willing to rent a house for $80 per month and entirely overlook the items of food and clothing and other expenses? It is necessary in budget-making to look ahead, contemplating the possibilities of achievement and apportioning available funds for the various activities.

The first essential in the preparation of any budgetary plan for legislative decision is the compilation of estimated costs for the fiscal period under consideration. In an educational institution these estimates should be prepared by the president or principal after getting all possible assistance from heads of departments or from a faculty committee on the budget, to whom any person connected with the institution might present a request. Such democratic participation in planning for the future prevents friction, stimulates coöperation, and encourages *esprit de corps*.

It is also necessary to estimate income in order that there may be a budget balance or a proper correlation between estimated revenues and expenditures. This plan gives an opportunity to lay stress upon new and necessary educational projects. In fact, it is a stimulating situation for many executives annually or biennially to face the necessity of creating a policy worth defending before the governing body. Such a tabulation of opportunities and necessities makes a strong appeal to a body of business men who are charged with the duty of weighing the evidence before making an appropriation.

In some school systems the responsibility for the budget has been placed upon some fiscal officer, such as a business manager or upon the board of trustees. Schoolmen have been accused of being theorists and impractical, and the unthinking have tried to divorce the business side of education from the professional. The trained executive who is held responsible for expert educational policy must be ready to propose financial bases for putting his plans into effect. Anything less would be visionary and worthless. Fiscal and educational policies must be complementary and both should be proposed at the same time to the same board of control for consideration and approval. Budgets that are prepared by fiscal officers alone seldom operate in educational practice. They lie inert upon some dusty shelf because they lack vital connection with educational policy.

It is possible for an institution to drift along without any controlling fiscal policy by having its budget consist of approximations determined more or less at random. To be effective a budget should be a living reality, intelligently used, and modified if its users become possessed of more adequate knowledge of unforeseen circumstances. To further this practical end a budget should not be so rigid and mechanical as to thwart proper and desirable educational activity. "The letter of the law killeth, but the spirit giveth life."

To meet emergencies and unforeseen contingencies a liberal "contingent fund" must be provided, or else it must be possible upon the recommendation of the head of the institution or of a budget committee to transfer money from one account to another. The only alternative is possible serious injury to the institution or a despised deficit, which in some states is illegal and should always be avoided if possible.

The budget as first presented might be called a "provisional budget"; after discussion and adoption it becomes a "working budget." The latter will often be somewhat smaller than the former, but this is no argument in favor of a so-called "padded" budget. A responsible administrator must be able to analyze his proposed budget to the last dollar. If it will not stand this test, the whole proposal is discredited and the institution represented may sustain serious injury. If reductions must be made by proper authority, let it be understood that just so far must the proposed policies and activities be curtailed.

The total amount involved in the budget must be determined by recent experience and by immediate prospective demands for growth and development. The distribution of the total among the various items will involve careful analysis and planning. It will be false economy to neglect a building program through a period of years and thus congest classrooms, hamper teachers in their work, and reduce educational effectiveness in order to save temporarily. Not only must the internal situation be studied, but comparisons should be made with similar systems or institutions elsewhere. Averages will not establish the norm of procedure, but they aid in safeguarding policies and in interpreting wide variations. Each important phase of activity must have its fair share of the available funds, and a carefully planned budget is the best instrument yet devised for securing this desirable result.

Director F. E. Spaulding of the Yale School of Education says: "The school budget is the most influential factor in educational procedure. It determines organization, methods, and results; the size of classes; means and materials of education; educational values, in fact, no phase of education escapes the influence of the budget, whether a budget is made or not."

One of the most important functions of the budget is periodically to stimulate public discussion of progressive measures by the school authorities. It forces the necessity of establishing certain standard units for a proper comparison of similar institutions in the same state or in different states. Two such units that have been evolved are the "student clock hour" in estimating cost of instruction and the "per capita cost" in determining total efficiency. These form a basis for comparison and point the way to needed changes in administration if one institution is found to be much more expensive than another.

NORMAL-SCHOOL ACCOUNTING.

Before normal-school budgets can be compared intelligently, uniform methods of classifying accounts and of naming activities must be agreed upon. Great progress has been made in standardizing all types of school reports and statistics in recent years through the interest and aggressiveness of the Federal Bureau of Education and of the Department of Superintendence of the National Education Association.

In 1918, the National Council of Normal-School Presidents and Principals considered a committee report on standards in normal-school accounts, that prepares the way for this much needed uniformity in terminology. The wide variety that has existed almost precludes the discovery of a normal distribution of available funds to the various fields of operation.[1]

To give a proper knowledge of the particular institution before appropriations are discussed by the Board of Control or the Legislature, it is proper to present an inventory taken annually or biennially which gives a faithful estimate of the fair cash value in a going concern, of all of the property of the normal school. It will also be necessary to give the appropriations of the preceding session and also a statement of all other income from fees or tuition. Last of all will come the statement of expenditures. If a budgetary plan has been in force in the past, such a report will show how accurately the budget was planned and executed. This opportunity to exhibit the ability of the school officials to execute a carefully prepared plan is one of the most valuable features of the budget system.

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[1] This report was published in Educational Administration and Supervision, March, 1918.

This report recommended that expenditures be classified under three great divisions;—Capital Outlay, Maintenance, and Operation. The first would include all investments intended to enlarge or increase the efficiency of the material equipment. Land and land improvements, new buildings and betterments, and all kinds of new permanent equipment, such as machinery, fixtures, furniture, and apparatus, should come under this head.

Ordinary repairs and replacement and all outlay intended to keep the plant up to full efficiency, including insurance and expenses necessary to maintain the plant when not in use, belong to expenditures for Maintenance. The costs of operation are distributed under four main headings:—administration, physical plant, instruction, and student welfare. The first includes salaries of officers and clerks, printing, stationery, and the like. Expenses for physical plant includes salaries of engineers, janitors, and yard men, fuel, oil, light, power, and water, and janitor's supplies.

The cost of instruction includes teachers' salaries, textbooks, light and power for instruction, educational supplies, and library expenses. The last element of the cost of operation is student welfare, which includes student health, lectures, concerts, commencement, athletics, and student organization.

When this outline comes into more general use, its great value will be appreciated. One source of confusion has been the summer session, which is rapidly becoming one of the most valuable features of the normal schools. It should be regarded as an integral part of the school year, and if a separate account is required, it should be charged with its due proportion of all general expenses.

Reference is made to the necessity for basic units for comparison of costs of instruction and for estimating total efficiency. The first is measured by the "student-clock-hour," though this omits the valuable services of teachers outside the classroom which are vital to the life and welfare of the students. The dividend should be the sum of all the salaries charged to instruction, the divisor, the total enrollment in all classes for each period of the day, laboratory and shop periods to be reckoned at two thirds of full time. An abnormally low cost per student-clock-hour would indicate either that salaries were too low or that the classes were too large.

In determining *per capita* cost, the dividend should include 4 per cent of the value of the school plant, from 1 per cent to 2 per cent of cost of buildings as an allowance for permanent depreciation, and the entire outlay for maintenance and operation. The divisor should be the average term or semester enrollment. For the summer session one sixth of the enrollment should be added, since the term is about one sixth of the regular year.

The various features of this report of the committee of normal-school presidents are already embodied in the budget-making of normal schools. Not all recommendations are found in any one budget, but the tendency to conform is noticeable in budgets from widely separated parts of the country.

In the State of Washington a "Joint Board of Higher Curricula" has been organized which has resulted in an illuminating report concerning the expenditures and costs in the educational institutions of that state for the year 1917-1918. Succeeding reports will be more valuable.

The State of Illinois has developed a type of central control that calls for a monthly report consisting of a balance sheet between appropriations made under the various heads of the budget and the expenditures to date that may be charged against these items in the budget.

The report of the Budget Board of the State of California gives in compact form comparative data relative to previous appropriations, present requests and the recommendations made to the Legislature for the present biennium. The practice in California is to make a separate appropriation for capital outlay and the maintenance of the training school.

The good features of these three systems constitute a proper budget system. The detailed distribution of expenses used in Washington and Wisconsin which justifies the amounts requested, and the monthly accounting as used in Illinois, and the comparative statements used by the Budget Board of California, give us the features of a composite budget system that would secure the practical advantages desired.

STANDARDS FOR BUDGET ITEMS.

In approaching the study of the reports of normal schools for the purpose of statistical comparison, the fundamental necessity of uniform methods of accounting becomes more and more evident. The variety in the form of reports required by the various state departments of education seem to be at the foundation of this difficulty. The Federal Bureau of Education, or better, the proposed National Department of Education with a cabinet officer at its head, could secure a much needed reform in this matter. So many of the items are grouped differently that analysis and comparison are impossible. In many reports salaries of administrators, teachers, and other employes are placed together. Maintenance in other cases includes salaries and all other running expenses. Student welfare is seldom separated from other maintenance or instruction costs.

Another difficulty involved is the question of depreciation. The Joint Board of Higher Curricula of Washington has recently adopted a very progressive policy in this regard. The expected life of a piece of furniture, equipment or even of a building, is carefully estimated in years. If five years be the time of expected utility, then 20 per cent depreciation annually should be deducted for the equipment mentioned. These estimates are based on experience; they are standardized and can be found in Higher Education Circular No. 17, U. S. Bureau of Education, entitled "How Much Does Higher Education Cost?"

Capital Outlay is one of the most variable factors in institutional reports, depending upon building projects and extensions which in turn are dependent upon the growth and development of the school as well as upon the generosity of the Legislature. It seems only fair in any comparison of data on a percentage basis that such a variable should be left out of consideration inasmuch as it would greatly modify the relationships.

Again the element of interest and the payment of debts, bonds, notes, and the like should be left out of the account inasmuch as these funds would in any event appear in the various distributions according to use or purpose.

The following table has been compiled with some fear and trembling because of the above-named uncertainties and difficulties, as well as some others that are not so evident. No statistical conclusions can be more reliable than the figures from which they are derived, but the following are approximations made from official reports from schools in various parts of the country.

TABLE I.

Cost of Maintenance in Thirty-two Different Years in Per Cent of Total Expenditure, Excluding Capital Outlay.

Cases.	Per cent.
1	.1
1	1.3
1	1.5
1	1.6
1	1.9
3	2
1	2¼
1	2.4
1	2.7
4	3
1	3½
1	3.6
1	3.7
3	4
1	5
3	6
2	8
1	9
2	10
1	11
1	16⅔
32	

Fifty per cent of the cases lie between 2 per cent and 6 per cent, and the median is 3½ per cent. The median deviation is equal to $\frac{6-2}{2} = 2.$

The number of cases and the range indicates that an institution should be able to approximate 3 per cent or 4 per cent in maintenance costs even with prices as extreme as they have been during the years under consideration.

TABLE II.

Cost of Administration in Twenty-nine Different Fiscal Years in Per Cent of Total Expenditures, Less Capital Outlay.

Cases.	Per cent.
1	1.5
1	2
1	6
1	7½
1	8
9	9
1	9½
6	10
3	12
1	13
1	14
1	15
1	17
1	18
29	

Fifty per cent of the cases lie between 9 per cent and 12 per cent, and the median is 9½ per cent. The median deviation is equal to $\frac{12-9}{2} =$ 1½ per cent.

Judging from this distribution, a standard cost of Administration would be in the neighborhood of 10 per cent of the total expenditures as limited above.

TABLE III.

Cost of Physical Plant in Per Cent of Total Expenditures, Excluding Capital Outlay.

Cases.	Per cent.
1	6
1	8
1	9
3	10
2	11
1	11.5
2	12
5	13
2	13.5
4	14
1	14.7
1	15
1	15.6
1	16
2	17
1	19
1	20
1	20.5
1	25
32	

The median cost in the 32 cases is 13 per cent, with 50 per cent of cases lying between 11 per cent and 15 per cent. Median deviation becomes $\frac{15\%-11\%}{2} = 2\%$.

TABLE IV.

Cost of Instruction in Percentage of Total Expenditure, Less Capital Outlay.

Cases.	Per cent.
1	47
1	53
1	56
1	61
1	62
3	63
3	64
1	65
3	66
3	67
2	68
1	69
3	70
1	71
1	73
1	74
1	80
1	83
1	86
30	

The median cost of instruction in the cases studied lies between 66 per cent and 67 per cent. Fifty per cent of the cases range between 63 per cent and 70 per cent. The median deviation is therefore $\frac{70-63}{2} = 3\frac{1}{2}\%$.

The sum of the medians obtained in these four tables is 93 per cent. This leaves a margin for summer schools, extension activities, and student welfare,—items that have not been included in these calculations.

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GIVING EFFECTIVENESS TO OBSERVATION WORK

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The claim arising in some quarters, that observation of teaching should be dispensed with as a feature of teacher-training is significant, even though we may not be disposed to give serious heed to it. It is indicative at least of the failure of one rather time-honored factor of the regimen of training to quite completely justify itself. The relatively weak position which it admittedly holds may be due rather to feebleness of effort in its administration than to its inherent lack of possibilities.

If observers are not primed to play a more interested part than that of mere on-lookers, it is but inevitable that the results they attain should be of slight consequence. The vocational motive may be relied upon, it is true, to avert this low plane of performance in a measure; but it is scarcely ever so strong as to maintain real intensity of mental effort, even if that effort could be assumed to be devoted to the most essential things. There is a strong tendency in even the best individuals when witnessing any sort of activity to do nothing more than look on, taking in the situation only in general or dwelling upon particulars only in so far as they may be novel, or striking, or otherwise strongly affective. This tendency is so pronounced, indeed, as to overbalance decisively in all but exceptional cases the good effects of professional purpose. No opportunity is afforded in the usual observing situation to keep up interest by personal appeal to the observing class, as another group occupies the stage. For these reasons the chances are in favor of many important things' passing under the eye without being actually seen. A tense, assimilative state of mind has to be maintained under the handicap of the presence of another group. It is neglect of this necessity in the situation that is likely to become the fatal weakness of observation courses.

Corrective measures are to be applied, therefore, at this point. We can put in the minds of our students in advance of the observation period stimulating questions, suggestions, and the like; and note-books can be brought into use as a means of keeping these from being lost. The psychology of the class situation and of processes to be observed can be recalled in so far as previous courses have provided useable material. Readings may be required and specific instruction given sufficient to make the student an intelligent, and in some measure critical, observer. Probably only a few who direct observation work neglect to fit students in some part along these lines; and it is safe to say that any who do not are involving those for whom they are responsible in almost incalculable waste of time. The nature of the situation is such as to require that their minds shall be strongly quickened immediately in advance of the period spent in observation, and that some instrumentality shall be employed that may serve to sustain for the length of the period the highest possible degree of concentration.

For this purpose hurried admonition and brief verbal suggestions, however well conceived, will not suffice. The student should have before him while he observes very definite things to be done. He should be consciously endeavoring to get light on a specific problem of teaching. What he sees may represent, indeed, relatively settled pedagogical practice; but to the student the situation presents a problem nevertheless. It may be a question of how pupils are caused to get a necessary conception of a chemical reaction; or of how they may be led to gain the most vivid impression of the achievements in sculptural art of a Phidias, or of a Charlemagne in political affairs; or of how they attain most economically and effectually a working understanding of the removal of a quantity from under the radical sign. Even though these and other such questions were definitely settled in educational practice, they would still be quite problematical to the inexperienced student of teaching. Such problems, typical always, should be raised; and the student's mind should be centered upon working out their solution. He will be successful in this in proportion—(1) as he appreciates the meaning of his problem; (2) as he comes to grasp its implications; (3) as he can find relevant data or evidence; and (4) as he is enabled to use evidence when found in forming sound conclusions.

The problem constituting the main interest of a day's work should have its origin, in so far as possible, in the thought of the observation group. It should take on content and find definite expression as the group deals with it. As it is analyzed the sense of need of certain information will arise, and in turn subsidiary questions to be investigated. The use of available literature on teaching will suggest itself, and hence there will be occasion for citations to books and educational periodicals. All of these things constitute a phase of the work answering to the lesson assignment in ordinary teaching. Its outcome is to put the student in possession of a major "question worth work," and grouped under this he will have a limited number of subsidiary questions. He has been supplied further with reference readings, calculated to yield usable points. It may be presumed that some animation of his purposes has taken place, also, in the course of this preliminary discussion, which with the plan of study evolved fits him to work for a time independently. His individual task will consist in consultation of authorities to which he has been cited, and in thought on the questions to which the day's problem has given rise. He may well be forewarned, particularly as he gathers material from his readings, against allowing the formation of preconceptions which may prevent him from really seeing in the class about to be observed how things actually work.

During the interim between the assignment and the observation some "setting of the stage" should take place. The director of the observation class and the teacher whose work is to be observed have opportunity within this space of time to confer and to reach an understanding as to the kind of lesson to be given and the phases of instruction that are to be stressed. The observing class is thus saved from relying on only chance values, besides having brought to them work that is of higher standard because it is the product of a union of minds. By the same token the pupils under observation experience better teaching, and the interests of these are assuredly to be carefully conserved. They need not be caused to suffer from this prearrangement of work from day to day for the benefit of another group, for the sequence of exercises which this latter group requires is not one that is rigidly fixed.

Just prior to observation it is essential that the observing group be brought together for a very brief conference. Five minutes' time will usually suffice. The main purpose of this meeting is to renew motive. Class morale, always to be recognized as a highly important factor, is in this brief period to be revived and strengthened so that it may carry through the longer period to follow, during which no personal stimulus can be brought to bear.

While the student is observing, as has already been suggested, he is carrying on a specific piece of investigation, the general plan of which he has before him as previously formulated in conference with his fellow-students. Along with definite questions he has his points noted from his own thinking in the light of reference readings which he has pursued. The consciousness of having definite things to gain holds him in close attention to what is going on; and besides the things to which his attention is directed would probably for the most part escape him but for this persisting type of directive influence. The student's activity is thus saved from being at the same time dilatory and shallow. Study of the situation is enforced, which must of necessity involve penetration far beyond the limits fixed by the student's own undeveloped insights. A fairly incisive kind of work is insured, without which there can come no real understanding of instructional processes.

The question may be said to enter here as to whether observation of teaching should be so ordered as to illustrate educational principles or to furnish prospective teachers with patterns of professional good form and skill. Cleverness in ordering the affairs of the classroom, whether it may have to do with the presentation of material or the maintenance of strong influence over pupils, has in it much that may be imitated, and that should on that account not be lost. But the strength of imitative tendencies is such as to render it sufficient to deal with these factors casually, rather than to make of them a main interest for any whole period or for any large part of a period. Teaching skills may be acquired in relatively high degree, indeed very considerable worthy school results may be achieved, without profound mastery of educational principles; and yet schoolroom responsibilities, even when narrowed to instruction itself, may be most safely entrusted to those persons who possess real understanding of education. Because of these conditions it seems to the writer to be the wise course to lay principal stress upon exemplification of principles rather than upon display of highly developed pedagogical skills. Students are thus inducted into serious study of their chosen art with increased likelihood of their obtaining a sufficiently substantial grounding in related educational science.

Place should be given usually to a conference following the class observation for the purpose of working up material that has been gathered into the form of a summary or conclusion. Whether this takes the form of a condensed statement of points or of an inductive or deductive judgment obviously will depend upon the nature of the problem attacked. In any case the product should represent the student's own work, in which the instructor has exercised only a guiding hand. Dictation of predigested material and ready-made findings should not be permitted to take place, as it is important that the work should preserve the character of a study project throughout. Written reports should be required on each observation lesson in the earlier part of the course, at least, and on selected ones, if not all, of the later lessons. These should embody definite answers to all subsidiary questions used, and a concise statement of the student's conclusions on the point of the main problem with which the lesson deals. In the later stages of the course students should have opportunity from time to time to work out their own findings independently, the group conference being dispensed with except for assignment purposes. Even though both types of conference work are receiving attention, it is not necessary that a separate period be devoted to each; all that is required is a judicious division of a single daily conference period between working up results on the lesson of the day and setting the problem next to be taken up.

The order of activities which the writer would advocate may be stated in summarized form as follows:

1. Setting the problem, with development of principal leads to its solution.
2. Individual study.
3. Brief group meeting preparatory to observation.
4. Observation.
5. Final group study and individual written report.

In the course of some length of experience in directing observation work the writer has developed a series of sixty exercises, answering to the method outlined in this paper, which have been published in the form of a combination manual and note-book. These deal entirely with elementary school subjects. As illustrating a form of study outline desirable to be put in the hands of student observers, a sample selected from the series is appended below. The use of prepared material of this sort need not interfere with giving students the benefit of thinking out problems and plans for themselves, provided such material in the case of any lesson is not prematurely laid before them.

SPECIMEN STUDY PLAN.*

General Topic: Training in Thought-Getting.

Observation Problem: What are the most important ways of helping pupils to get thought contained in reading matter?

1. What evidences do you see indicating that the selection read does, or does not, make a proper appeal to the interest of pupils?

2. What variations do you observe in the size of the unit of material upon which the attack of pupils is directed? Tell of the effects.

3. What directions or other forms of stimulus are employed by the teacher to bring about vigor of attack?

4. What are the effects of re-reading as a thought-getting measure?

5. How are pupils stimulated to bring to bear recalled experience and to use other forms of mental association?

6. Criticize the teacher's questioning for meaning.

7. To what extent is analytical study of passages entered into, involving technicalities of grammar, interpretation of allusions or figures of speech, or use of the dictionary?

8. Give your impressions regarding any use which may be made of pictures, maps, gesture, impersonation, or other devices tending to hold the attention or stimulate the imagination of pupils.

9. What effects do you note coming from pupils' restating the author's thought, making of synopses, and the like?

Summary:

Things to Imitate:

Things to Avoid:

Questions:

---

*Selected from Landsittel's "Observation Record Book," published by Scott, Foresman & Co., Chicago.

References:

- (a) Taylor,—Principles and Methods of Teaching Reading, 129-141.
- (b) Klapper,—Teaching Children to Read, IV.
- (c) Briggs & Coffman,—Reading in Public Schools, VII, XVII, XXII, XXIII, XXIV.
- (d) McMurry,—Special Method in Reading, 119-122; 245-258.
- (e) Gray,—Principles of Method in Teaching Reading, Eighteenth Yearbook, N. S. S. E., 38-43.
- (f) Hinsdale,—Teaching the Language Arts, XIII.
- (g) Bates,—The Study of Literature, VII.
- (h) O'Shea,—Linguistic Development and Education, IX.

SIX YEAR HIGH SCHOOL IN LEWISTON

FRANK W. SIMMONDS,
Lewiston, Idaho

The six year high school, based on a six year reorganized elementry school, is not a mere device, a readjustment or an arbitrary regrouping of grades. It means a complete reorganization of both the elementary school and the high school with reference to aim, content, and method of work. Departmentalizing the grammar grades and annexing them to the ninth grade does not constitute a junior high school, as some seem to think. The junior high school is a new vision and a broader conception of the things to be accomplished at that period of the pupil's school life.

It means a changed mental and social attitude towards school life and work in general. It means increased opportunity for work of an individualistic nature. It means the elimination of the fatal sharp cleavage at the eighth grade. It means the careful, wise adaptation of social studies, shop work, home economics, sciences, commercial work, and foreign languages to these grades, formerly unwisely reserved for the high school which all too frequently they never reached. It means being inspired and taught by teachers of more liberal training. It means a more natural grouping for social and athletic activities and general school community work. It means giving the vitalizing touch and breath of life to a period of school life that has been a sort of an educational no man's land, where the work consisted largely of deadening repetitions of the work of previous grades with a little more of the same each year.

Securing the proper teacher for this adolescent age is the big problem. No one-line special teacher is large enough, nor will he fit well, into the junior high school schedule. The ablest, wisest teachers have their hands full, and the teacher who knows not red blooded boys and girls, who displays a lack of evidence of self control or self confidence or who frets or scolds or who lacks the power of leadership, serves only as an irritant and producer of friction and trouble.

Junior high school boys and girls demand and need teachers who are well-balanced, developed men and women who teach many things well and over each and every recitation can bend the whole sky of truth and interest; who know, understand, and can wisely sympathize with boy and girl nature; who can lead them, give them the vital touch of ambition, and fire their zeal and fill them with an unquenchable thirst for achievement, while developing that self reliance, self control and self direction that manhood and womanhood will demand of them.

The essential principles of program making, continuity, distribution and coordination apply to both the junior and senior high school with emphasis in the former upon the extensive outlook and in the latter the intensive treatment. Also early in the junior high school cycle the aim is partly exploratory and later shifts the emphasis more and more to the vocational, using this term in its broad sense.

The pupil lies at the center of attention: subjects are means to be used in developing self expression and self realization. Six main types or fields of secondary education comprise the work ordinarily offered for credit; they are considered an essential part of educational environment: English, social studies, constructive arts, sciences, mathematics, and foreign languages. Accessory activities, such as out of class work for credit can be linked up with some one of these main types with music and physical education for all pupils. Each of these fields of activity represents a relatively distinct body of organizing principles which are not adequately developed under their appropriate labels. The boundaries are not rigidly fixed, however; each is a sort of integrating core represented throughout the entire high school course.

These integrating cores of activity serve as a guide in adjusting pupils to curriculum offerings. All normal boys and girls should for a time be kept in self-active contact with each of the six fields of work. They are the "prescribed temptations" from which the selection of at least four at any time will serve as a point of departure. In this way a certain priority will be observed without the exercise of autocratic, unreasonable authority. These fields of activity are not to be set off in rigid mosaics or confined to water-tight compartments. Their interests are mutually interpenetrating and every law of adolescent development demands their close correlation. Overlapping of interests should be kept in mind. Often the teacher of science is also an excellent teacher of English. The English teacher may be a most successful teacher of history and use it as valuable content material; and so on throughout the curriculum.

Five class periods a day should be offered throughout the high school course, thus giving pupils of good ability an opportunity to carry work in five fields or perhaps two courses in one field. During the first two years it seems wise that two years of English, two of mathematics, two of social science, one of general science, and one of constructive work be required, with ample provision for optional studies depending upon the size of the school. During this exploratory period, the principle of continuity, which becomes increasingly significant in later years, must be observed. Throughout the secondary school the subject selected should be pursued, whenever possible, through the period of at least two years. Two of the six fields should be centered on as majors and pursued throughout the senior high school, and two others as minors pursued two years in the senior high school.

Liberal opportunity must be offered for freedom of adjustment to individual needs—it is the chief business of the secondary school to assist each pupil to become an excellent judge of his own developing powers and opportunities and of his own vocational future. High schools have been neglecting this opportunity as a broad try-out period, and as a time of self realization. Education as preparation is to take second place to education as direction. Placement of pupils should be a matter of frequent readjustment with reference to ability and fitness for schooling.

The junior-senior high school plan of development is most feasible and most effective in the small, compact cities and in centralized schools for rural population. The plan is adaptable, however, to all schools. The six year high school makes it possible for the stronger pupils to plan on completing a thoroughly respectable curriculum in five years. More than seventy-five per cent of our scondary students are found in the smaller schools. It is vitally important, therefore, for these to consider the entire six year high school a unit and draw no arbitrary line between the junior and senior high school in dealing with individual and supervisory problems. Since beginning courses always present the most difficult problems the best teachers in the corps should render their service here; the teacher of science, for instance, should be given classes in the junior as well as in the senior high school; even in the larger schools having several teachers in a department such distribution of work is desirable for obvious reasons. The initial work in the junior high school must be given most careful attention. The junior high school teachers must be as thoroughly trained and as efficient as those in the senior high school. This means college and professional training. During the period of transition from the old system to the new, insistence upon the employment of none but college-bred, professionally trained teachers, would be unjust as well as futile and impracticable. Seventh and eighth grade teachers who have fitness for junior high school work should be transferred to this work; but for such teachers continual growth must be demanded and a clear vision obtained of what is to be attempted and done. The universities offer excellent opportunity for preparation for this work in their summer sessions. Superintendents and all interested in the future high school teachers must insist on scholarship plus professional testing and training plus personality. Neither academic scholarship nor detached methodology alone is adequate to the needs of the future professional worker in secondary education.

All sharp distinctions between the junior and senior high schools are to be avoided in all matters. The guiding principle to be observed is that education must be more continuous; not mechanically, but organically. The vital problem, as we have attempted to delineate it, is not in the external quantitative readjustments but clearly in the internal, qualitative work of the new secondary school. This problem calls for constructive thinking, close cooperative, administrative action, stimulating teaching, direction and redirection of instruction, reorganization and readaptation of subject matter,—for a self directing high school calls for self directing teaching of a high order. Teachers are charged with a greater degree of responsibility than ever before for the success of the new school.

The junior and senior high schools imply a lengthened school day, at least sixty minute socialized recitation, directed study periods, more highly motivated work, liberal entrance and advancement requirements, better paid and more skillful teachers, vocational advice and guidance, special assemblies, libraries and shop facilities, a liberal range of electives, general courses in science, beginning with the junior first year, modern languages taught by the direct natural method, special opportunity for social, literary, athletic and school community spirit development, kept in harmony with the movement to an extent that friction and disagreeable reactions did not develop. The plan so developed has in all major features been in full operation four years.

All the elementary schools are organized on the basis of six years' work, undifferentiated and emphasizing the idea that here is, preeminently the place in which the fundamental facts, habits, drills and attitudes are to be fixed as working tools, and the child's impulses and instincts developed as working interests. Physical training, organized play, music, art, dramatized reading, ethics and elementary manual arts are stressed. Teachers in the first and second sections respectively of the elementary schools are promoted with pupils in a three year cycle, in order to increase the teacher's sense of responsibility and make more effective the teacher's personality. All elementary principals teach full time and have disciplinary charge only of building and grounds. The position of general grade supervisor was created to have general charge of all promotion, classification, and pedagogical work. She has succeeded in unifying the work and increasing the efficiency of this elementary school to a degree that is very gratifying. Incidentally it is a matter of administrative economy, as it relieves five grade principals from half-time supervision, and as they are the best teachers in their schools the pupils gain in more effective class room work.

As to housing, the high school is centralized although the district is a large one, the junior and senior high schools occupying wings of the same building, separated by the gymnasium and auditorium. They have common use of the gymnasium, auditorium, shop and laboratories and run on the same time schedule; but each to a great extent preserves a separate organization, having its own principal and general assembly room and holding separate morning assemblies three times a week. Twice a week both schools meet in joint assembly. So while each school works in a sort of a world of its own, at the same time they are so closely related to one another in many activities that each seems to supplement and strengthen the other in an administrative as well as in a social and inspirational way. The separate and joint assemblies prove a very attractive feature each day from eight-thirty to eight-fifty. The programs are given careful attention, with as much variety as possible and made to be helpful and inspirational. Here it is in a large measure that we mould the civic, social and school spirit and teach ethics, good citizenship, appreciation of good music, literature, good art, and good stories. The students sing together, laugh together, think the same thoughts, and are one.

The high school day begins at eight-thirty and consists of twenty minutes for morning assembly, followed by six 60 minute periods with one hour for lunch, the regular day closing at four o'clock. Many subsidiary school activities are carried on after four o'clock.

The first half of all hour periods are divided, the first half being used for recitation, the second half for directed study. Our best teachers look upon the directed study plan as one of the best things in the system. It forces the teachers to stop rambling, to make definite reasonable assignments and holds the teachers responsible for the child's study habits. No pupil is left just accidentally to learn to concentrate his effort, nor to work on just anything he wants to at any time. Here is where he is taught application, concentration, and systematic habits of study and learns to know and feel his mental powers. Merely hearing recitations has rightly come to be considered stupid, deadly, mechanical business; and home study is largely a myth in so far as those pupils who need it most are concerned.

Laboratory, shop and beginning classes in foreign language work make special adjustment of divisions of time as to recitations and directed preparation study work.

A study hall is maintained in one of the assembly rooms for all pupils not engaged that hour in class work. Five hours of recitation and supervised study and recitation constitutes a teacher's regular schedule, but many teachers in addition direct gymnasium work or one or more subsidiary activities. Twice a month teachers, principals and superintendent meet at five o'clock school dinner in the home economics department for a general conference.

Six years of differentiated work are offered—three in the junior and three in the senior school. Each year an increasing wide range of elective work is offered. After the second junior year, English is the only specifically required subject; however, elective work must be chosen along certain major lines.

Twenty-four units of a year's work each are required for graduation. Nine are specifically required: namely, English five, mathematics two, history-geography one, general science one. As a further guide, pupils are expected after the second year to choose from the following fields at least three units in one and two units in another; science, social science, foreign languages or mathematics. Pupils are expected to carry at least four regular subjects besides subsidiary work. A large percentage of pupils by permission, successfully carry five. Students of good health and ability have no difficulty in completing the work in five years with full credit.

Advancement and Promotion.

All advancement is made in terms of credit, and examinations are given throughout the term when needed to clarify or summarize a given division of work. Credit is based on the pupil's average daily work and the written and oral tests given from time to time. This emphasizes the importance of doing good work every day. Reports are sent to the parents at the close of each six weeks' period. Students whose general average is "Good" in all work and also in the attributes attention, attitude, industry, initiative and improvement, and having no unexcused absences or tardiness, are rated and published in the local papers as "Honor Students." Students having two-thirds or more of all work and attributes marked excellent are rated as "Highest Honor Students."

Teachers are required to report any student who shows signs of failing to parents and principal so that every effort may be made to prevent failure.

Educational Administration and Supervision

Including Teacher Training

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BOOK REVIEWS

Introductory Psychology for Teachers. By Edward K. Strong, Jr. Baltimore: Warwick & York, Inc. Pp. xii, 233. 1920.

This excellent practical textbook of later-day educational psychology consists of forty-four directly applicable lessons, a preface, and an index. For all of these the average normal school should give thanks, for they are what the average school for teachers needs. Besides the introduction, they are divided into three groups, respectively, "the learning process," "individual differences," and "some physiological aspects of psychology," the last being the shortest.

The course explicitly outlined here is planned to be followed by two companian courses of descriptive and applied psychology, respectively. The aim of the course itself is "to meet these and other ideals of teaching:" "Certain principles have been established as fundamental to good teaching. Theoretically, all psychologists are agreed that a course of study should proceed from the known to the unknown and from the concrete to the general; that students should learn by doing; that the problem or project method of teaching is superior to memorization of a textbook; that functional, not faculty, psychology should be taught; that individual differences in students should be taken into account; that a beginning course should be designed for the benefit of the great majority who never go farther," etc. "Instead of beginning with the most uninteresting phases of psychology and those most unknown to students, the course takes up concrete experiences of everyday life, relates them to the problems of learning and [of] individual differences, and so develops these two topics. Each general principle is discovered by the student out of his own experience in solving specially organized problems.

* * *

"The course is conducted in a radically different way from prevailing courses. The student is immediately introduced to problems of behavior taken as a whole, and only after he is fairly familiar with psychological procedure, terminology, and point of view, is he given his psychological background. * * * The text is printed as a book or in the form of 17 booklets. The advantage of the booklets is to prevent the student reading ahead." [!]

All this (from the preface) indicates the nature of this more or less novel textbook of Professor Strong. Opportunity for not a little humor and not a few skeptical remarks offers in the last sentence quoted above, which she who tries to run may read, e. g., Pow'ful strong must be the psychology presented that needs be doled or else some students differ from some other students. At any rate, out in doses and the bottle locked up!—or else amazingly seductive—the present reviewer thinks of the adolescent human learner as quite a bit less of a machine than such a plan implies that he is.

But this doctrinal point need not be exaggerated in considering this excellent textbook for "normal" students. The main conception around which everything else is built "takes the curse off" (if any adhere) effectually. "Man's behavior must be thought of in terms of Situation, Bond, and Response," "learning is reduced to making new bonds," and "teaching becomes the art and science whereby proper situations are presented so that children will react as desired."

Dr. Strong is fashionable if not a bit ahead of the mode. "In earlier days," he says, "psychology was defined as the 'science of the soul' and the 'science of mind.' Both of these definitions led to insurmountable difficulties and have been discarded." [?] (And yet

Wm. McDougall, even, whose psychology is the science of behavior, argues nobly for the existence of the soul as a teleologic principle, and this soul may reasonably be worthy of scientific description and discussion, and notably that portion of it which, according to Bergson, "overflows" the nervous system.)

As a textbook for the use of the average normal-school student this volume is perhaps the best one available. Its author is to be congratulated on its novel features.

George V. N. Dearborn.

Sargent Normal School, Cambridge.

Volume VII September, 1921 Number 9

EDUCATIONAL ADMINISTRATION AND SUPERVISION

Including Teacher Training

THE MEASUREMENT OF COLLEGE WORK

REPORT[1] OF AN EXPERIMENT CONDUCTED BY THE STAFF OF INSTRUCTORS IN CONTEMPORARY CIVILIZATION IN COLUMBIA COLLEGE WITH THE ASSISTANCE OF PROFESSOR E. L. THORNDIKE OF TEACHERS COLLEGE.

OUTLINE OF THE REPORT.

I. The need for a consideration of the question.
    1. Evidence of the inaccuracy of school and college marks.
II. The philosophy of school marks.
    1. The purposes of grading students in high school and college.
        a) Pedagogical.
        b) Administrative.
    2. The bases of grading: agreement essential.
III. The means of deriving marks.
    1. Personal estimate of instructors.
    2. Written examinations.
        a) Characteristics of traditional examination.
        b) Essentials of a valid scale for mental measurement as stated by Thorndike.
IV. Experiment with a new method of examination for ability or achievement in a college course of the descriptive type.
    1. The plan and suggested form of the New Examination.
    2. The making and administration of the New Examination.
    3. Statistical results.
    4. Types of distributions.
    5. Correlation results.
    6. Influence of personal acquaintance in subjective scoring
    7. Reliability of New and Old methods.
    8. General considerations.
    9. Pedagogical value of New and Old methods of examination.
    10. Economy of the New method.
    11. Recommendations.
    12. Instructors' opinions on New method.

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[1] This report has been prepared by Mr. Ben D. Wood of the Department of Psychology in Teachers College, and Assistant to the Dean of Columbia College for the coming academic year. The staff of 18 instructors in the course in Contemporary Civilization in Columbia College have collaborated in the preparation and study of the new type of examination referred to. In the opinion of all who are intimately concerned with the course, the new examination affords a more accurate basis for judgment of the student's accomplishment and worth than the usual type of examination. In view of the unusual interest and promise which these experiments afford, it is confidently expected that they will be continued in various departments of Columbia College during the next year under the direction of Mr. Wood.

Particular acknowledgment ought to be made to Prof. J. J. Coss, Dr. H. W. Schneider, Dr. H. J. Carman, Dr. W. E. Weld and Mr. R. D. Leigh for their part in the work.—H. E. Hawkes, Dean of Columbia College.

I. THE NEED FOR A CONSIDERATION OF THE QUESTION.

That college grades as well as high school marks are highly inaccurate and unreliable is a notorious fact upon which there is no disagreement among investigators, and which is only made more apparent as the results of each additional investigation are made public. The thesis of this report is that the weakness of school marks is largely due to avoidable defects in our present examinations or measuring devices, and that these defects can be corrected, not by the use of a "standard" examination, of fixed content and of fixed difficulty, for each course, but by the introduction of a *method* which takes account of the principles of mental measurement, and which makes use of modern technical devices.

In spite of the mass of evidence that is now available to demonstrate the very grave inadequacy of the present marking system there are some college instructors who feel, probably often with some justice, that the present system gives very satisfactory results in their own personal use of it. The worth of this sort of opinion would appear if we could have two or more such experts apply the present measuring devices to exactly the same product; if they agreed within reasonable limits as to the merit of the product, it would be only fair to accept their appraisal; but if they disagree by significant margins, then *pari passu* we would be compelled to reject their claim. This test has been applied, not to two or three such claimants, but to hundreds of instructors in colleges and high schools who have thought their grades were "satisfactory."

Experimental Evidence of the Inaccuracy of School Marks.

Starch and Elliot *('12 and '13) had a final examination paper in first-year-high-school English graded by 142 English teachers in as many high schools. If the final examination system for English is valid, teachers using it as an instrument to measure the same identical product ought to agree within reasonable limits, so that the maximum variation would not be more than one- or two-fifths of the total range. We might well endure variations of only one or two letter-grades; but this paper was marked all the way from 64 to 98 per cent. Another examination paper of the same kind was rated by the same 142 teachers of English; the scores ranged from 50 to 98.

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*EDUCATIONAL PSYCHOLOGY, Daniel Starch, Ph. D., Professor of Educational Psychology, University of Wisconsin. Macmillam. New York, 1920. The last chapter gives an excellent summary of most of the investigations to which reference is here made, Together with others not mentioned for lack of space.

A final examination paper in American History was graded by 70 history teachers; one teacher assigned it a grade of 43 and another 90; a dozen teachers rated it as 80 or above, and another dozen scored it as below 55.

It might be objected that these are not fair samples of the system because of the peculiar difficulties of measuring English, history, and similar subjects with necessarily indefinite content. These objectors would agree that mathematics is one of the most definite and objective subjects in our curriculum, and that a trial of mathematicians or teachers of mathematics would be fairer. A final examination paper in geometry was scored by 114 mathematics teachers; as in the case of the English and history papers, it was marked on the basis of 100 as perfect. One teacher marked it as low as 28, and two marked it as high as 92. A dozen teachers marked it as 53 or below, and fourteen marked it as 83 or above. Comment on variations so great as these is obviously unnecessary.

That these variations in the indices afforded by a time-honored and respected educational device are not due to special characteristics of the high school nor to the fact of geographical distribution of the grading teachers is indicated by an investigation made by Starch ('13), in which ten final papers in freshman English in the University of Wisconsin were graded by ten instructors in freshman English. On one of the papers the maximum variation in the grades assigned by these ten instructors was 48 points on a base of 100. The average score assigned to the ten papers by one instructor was 65.5; the average score assigned by another of the ten instructors to the same ten papers was 85.1. Papers in other subject-matters were scored by teachers in the respective departments of the same school with similar variations.

A measuring device which in the hands of one competent person gives the length of an object as 92 feet, and in the hands of another equally competent person indicates that the length of the same object is only 28 or 30 or 40 feet, cannot be relied upon. The well-known compilations of Meyer ('08) at the University of Missouri, of Dearborn ('10) at the University of Wisconsin, of Foster ('11) at Harvard College, and of Finkelstein ('13) at Cornell, all tend to show that the present marking system is thoroughly unreliable even in the hands of undoubtedly competent and careful instructors. In one of these institutions one teacher for a series of five years assigned a grade of A to 55 per cent of the students in his classes, and a grade of F to only 2 per cent; another teacher in the same institution in the same period of time assigned a grade of A to 1 per cent and F to 28 per cent of his students. At another, one teacher assigned A to 35 per cent and F to 1 per cent, and another assigned A to 1 per cent and F to 32 per cent of his students.

Finkelstein ('13) found that of about 250 Cornell students in the same course throughout the year, but who changed instructors at mid-term, 12.5 per cent were exempted from final examination by one set of instructors, while 37.7 per cent were exempted by the other.

A notable test of the traditional examination is available for inspection in the reports of the College Entrance Examination Board. Composed as this Board is of well-known leaders in education and of experts in the various branches of learning, it is safe to assume that its experience is a fair test of the worth in terms of accuracy, reliability and uniformity of results of the traditional examination technique. Without considering many authenticated cases of individuals who, having received a very low failing mark one year, repeated the examination the following year without serious study in the interim and received a very high passing mark, we find more striking as well as more convincing evidence in the official report of the Secretary of the Board. Chart VII, page 6, of the report issued in September, 1920, shows that in the Mathematics A (Algebra) examination for 1916 more than 60 per cent failed to receive a passing mark; in 1917 the percentage of failures was about 35 per cent; in 1918 it was only 26 per cent; but in 1919 we have over 60 per cent failures, which is miraculously compensated for in 1920 by an equally precipitous leap to the high-water mark of 1918. The graph on page 7, showing percentages of failures for each year from 1910 to 1920, suggests a cubist etching of a choppy sea; the other graphs are but little more conventional. To attempt to explain these chaotic differences on any theory of chance variations in the ability or equipment of the examinees would be absurd: the trouble lies in the measuring stick, which one years calls a certain distance a foot and next year calls the same distance a yard or perhaps a rod.

II. The Philosophy of School Marks.

The Purposes of Grading Students in High School and College.

Why do we have grades? This is a real question which it would be advantageous to have answered. Some who are convinced of the inaccuracies of the present system and who have witnessed instances of the frequent injustices issuing from such inaccuracies are in favor of throwing overboard all differentiated grades beyond "Pass" and "Failure" for undergraduate departments of the college, as has already been done in many graduate schools of the universities. For undergraduate departments this might quite fairly be likened to the problem of the escaping fish who only succeeded in getting out of the frying pan into the fire. In the first place, this dichotomous scheme assumes that most of the defects of the present system lie in the range above the vicinity of the failing line—an assumption which is contrary to all the evidence that we have on the question. In the second place, such a division would be a patent misrepresentation of the facts, not even accomplishing the real purpose behind the proposal, namely, to conceal by a very gross classification the inaccuracies thus far unavoidable in the present system. It seems reasonable to assume that the abilities or achievements of students in the various subject-matters are distributed somewhat as the normal surface of frequency; we know beyond question that they are not distributed in two compartments, pass and not pass, good and bad. It would be as reasonable to divide students into the tall and short, the sick and well. There are greater differences among those who pass than among some who are on opposite sides of the passing line.

The purposes of grades in secondary schools and colleges may be divided into two fairly distinct classes—(a) Pedagogical, and (b) Administrative.

a) *Pedagogical.* Grades may contribute to a student's education either directly by calling forth his effort in answering the questions and in performing the tasks most visibly used in deriving his grades, or indirectly by forcing him to study effectively in view of prospective examinations, or by enlisting his co-operation through the incentive and competitive possibilities of just and fair marks of his ability or achievement.

b) *Administrative.* On the administrative side we may enumerate various plausible reasons for grades in high schools and colleges:

1) To inform parents or guardians of the educational status of their children or wards.

2) To give information as to fitness of students for higher or differentiated schooling.

3) To enable an institution to give a relative standing to students and so deterine those to whom credit or degrees or honors should be granted.

4) To furnish records sufficiently meaningful and accurate to be used in researches looking to vocational guidance and vocational education, to an appraisal or comparison of the efficiency of different school systems, of different instructors, of different methods of instruction, and of different subject-matters, and to all questions in the resolution of which exact information on accomplishment is indispensable.

Whether we accept one or all of these as valid purposes of grades, it is clear that each demands a certain indispensable modicum of accuracy now absent. To take just one example from the administrative field, the vexatious question of college entrance requirements would lose most of its terrors if there were objective and clearly defined marks from the secondary schools, or from reliable college entrance examinations. That we do not have such meaningful and consistent marks is due not only to the inefficiency of our measuring devices, but also to a lack of agreement as to the proper basis of grading.

The Bases of Grading.

Questioning of instructors and administrators in the field brings out the fact that grading as actually done in present practice is, for each individual instructor, based in part or in whole upon one or more of the following factors:

1) Effort put forth by the individual student.
2) General intelligence of the student.
3) General character and personality of the student.
4) General fitness of the student to live in civilized society.
5) Amount of improvement of the student—
    a) in general,
    b) in specific course or courses, or
    c) in both (a) and (b).
6) Actual achievement of the student—
    a) in specific course,
    b) in total school situation, or
    c) in total life situation.

To the reader some, perhaps all but one, of these bases for school marks may seem indefensible if not absurd in an enlightened society; another equally competent reader, perhaps, may find this choice the most absurd of all. For example, one college instructor found himself quite unable to believe that there could be teachers "intelligent enough to be on a college staff" who would base their marks upon anything but "the actual achievement of the student in the course and subject-matter that is being taught to the student by the instructor who is giving the grade." But to one noted professor and prolific writer on various aspects of education this manner of grading is bad; he complains that "It is even wicked because it so often seems to degrade or punish those of inferior abilities and to exalt those whose brilliancy is not of their own making." Another professor in the same institution whose contributions to modern educational progress are everywhere recognized, bases his marks almost wholly on the effort put forth by the student and on the growth of the student as measured by the difference between his knowledge of the content of the course at the beginning and at the end of the course; in his own words: "Some students who received a C at the end of the course knew more at the beginning than some other students who received B knew at the end of the course." In other words, Student X enters the course knowing much less than Y, and ends the course still knowing much less about the course than Y; but X gets a grade of B, while Y gets a grade of only C or D, simply because X has progressed a greater distance beyond his initial position than Y has progressed beyond his initial position.

These instances are not cited because they are unusual; space forbids mention of even a small fraction of the available examples of curious and almost incredible disagreements on this apparently simple matter. The point is that there are very striking disagreements, where at first glance all seemed "satisfactory." A well-appearing, earnest and amiable, but mentally unendowed student comes to school; he works very hard, he tries so faithfully to overcome his deficiency, and is so piteous in failure that teachers A, B and C, obedient to one of the theories named above, give him high marks; teachers X, Y and Z reluctantly but conscientiously report that he has utterly failed to grasp and profit by their intellectual offerings. Yet all school marks of the same outward value are interpreted as signifying approximately equal amounts of the same thing.

There are, of course, arguments for and against each of the attitudes illustrated above. It would seem, however, highly expedient, in view of the growing social importance of exact information concerning future citizens, to reach a working agreement. Many would say that it is the right and duty of the school administration to know as exactly and as unequivocally as possible the status of each student in each course; it ought to be the right and duty of parents to know just what and how well their children are doing in each of their school subjects; it is the right and duty of society to know what changes are wrought in its children by the various costly units in an increasingly costly educational system. If it is desirable to make record of the effort put forth by the student in each subject-matter, this record should be so separate and distinct in its definition as not to be confused by any chance with the actual achievement index in each subject-matter; if it seems expedient for each teacher to pass upon the character, personality, fitness for life in civilized society, or general intelligence of the student, these indices should be distinctly defined and kept separate from all other marks. If we are to have grades at all, they ought to be such that they can be used intelligently; the only way they can be made to serve intelligent use is to reach a measurable agreement as to what they are meant to indicate.

III. The Means of Deriving Grades.

Over and above the matter of the definition of the intent of grades there is still a very crucial question whose resolution is also prerequisite to a valid system of marking. Agreeing for the moment that effort is the basis of grading, how are we to know in the very large classes which our mass education makes necessary the quantity and quality of effort put forth by students? If amount of growth or actual achievement in a given course is the criterion, how are we to judge the status of students in these respects? It was largely in an effort to answer this question that the experiment reported in Part IV of this paper was undertaken.

Whatever the basis, teachers in general use two methods of ranking their students with respect to that basis; (1) general personal reaction to the behavior of the student and (2) written examinations.

Personal Estimate of the Instructor.

This method is far more generally used in substance than is ordinarily supposed, in spite of the fact that its weaknesses have been so clearly demonstrated. It is an individual and subjective melange of many relevant and irrelevant factors, such as readiness of speech, voice, appearance, manner, attitude toward things in general and toward special interests of the instructor, "personality," reputation and rumors. However absurd it may be, there are few who have not heard stories of the influence which race, color and sex have on grades derived by personal estimate. The method of frankly direct personal judgment has long been known to be so erratic that many teachers abjure it almost completely, and boast of using only the "fair and impersonal" method of the written examination in which the facts are "there in black and white." This written examination is the backbone of our present system of measuring the products of teaching. A little reflection will show that its "impersonal fairness" is subject to very grave suspicion.

Written Examinations.

The written examination in present practice usually consists of from five to ten questions on as many important points of the course in which the examination is given. The questions are chosen by the individual instructor; they are worded by him; their relative value is determined by him, not once at the time of making out the questions, but as many times as there are papers scored; and the answers to the questions are evaluated by him subjectively. It is difficult to understand how such a scheme could be very much safer than the discredited method of personal judgment. All the vitiations of the latter enter into the former where the instructor is even mildly acquainted with the student: the personal factor is far more powerful and insidious than we are accustomed to think. When the written paper is the sole measure, as when the student is unknown to the scorer, various relevant and irrelevant factors assert themselves. By tradition the written examination consisting of from five to ten short essays on designated questions is supposed to show the student's "power of organization." What this "power" is, is left to the "good sense" of the individual instructor, as is also the appraisal of any given sample of it. In practice, it would appear that an influential feature of the written examination is sheer mass of reproduction, coupled with any manner of evidence of the student's astuteness in guessing the intent of the questions. The influence of other features, such as physical form of the paper, handwriting, punctuation and general grammatical form, felicity of prose structure, rhetorical splendor, etc., are generally underestimated. Obviously, even where the basis of marking is exactly defined, reliable measurements are hardly to be expected from such instruments.

It would appear that in the last analysis, *grades are whatever the individual instructor makes them.* In some cases this extreme of individualism is mitigated to a certain extent by various rules (often spuriously, as when authority *ab extra* requires instructors to produce, by means not specified, distributions approximately normal); but in general, grades can be reduced to the unhampered *personal judgment* of the individual instructor at the moment of recording the grade. Some instructors deny, others not only admit but praise this individualism as necessary and just. No doubt it has been the best possible under the conditions of the past; but to accept the traditional methods as adequate for the present stage of civilization would be tantamount to making the unfounded assumption that the average instructor, by the mere fact of being an instructor, is automatically qualified to give accurate, reliable and meaningful marks according to modern conceptions of such terms.

The Essentials of a Valid Scale for Mental Measurement Stated by Thorndike.

Thorndike* has stated rather clearly the significant features of the conditions which confront us in the measurement of school work. Measurements which involve human capacities and acts are subject to special difficulties due chiefly to

1) The absence or imperfection of units in which to measure,
2) The lack of constancy in the facts to be measured, and
3) The extreme complexity of the measurements to be made.

To these we might add, for the special purposes of this discussion, 4) Lack of knowledge of just what is to be measured, or the prevalence of differing concepts of the thing to be measured.

From a consideration of the nature of these special difficulties, Thorndike has further stated the essentials of a valid scale for the sort of measurements required in the derivation of school marks:

1) Objectivity. "What science means by a perfectly 'objective' scale is a scale in respect to whose meaning all competent thinkers agree." The scales mentioned in Part I of this report are not ob-

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*Thorndike: Mental and Social Measurements, Teachers College Bureau of Publications, Columbia University, New York City, Second Edition, 1912. See Ch. II.

jective, since competent readers of the same paper varied as much as from 50 to 70 points on the base of 100.

2) Consistency. This requirement means simply that "The series of facts used as a scale must be varying amounts of the same sort of thing or quality." Thus, in so far as an examination for achievement in a given course measures such things as speed and quality of handwriting, prose-form, personality, voice, etc., it falls short of being consistent with its avowed purpose.

3) Definiteness. The two former requirements can be fulfilled only in the degree in which we approximate an exact definition of the facts to be measured. "An ideal scale, such as that for weight, is a series of perfectly defined amounts (of a perfectly defined thing), the differences between any two of them being also perfectly defined, so that a series varying by steps of equal difference can readily be selected." While it is very desirable, it is not necessary that a scale be composed of absolutely equal steps.

4) Comparability. A scale is valid only if it can be applied with reasonable ease and accuracy to the objects or facts to be measured. Calipers are better for head-length than an ordinary foot rule, because the caliper-scale is more directly and accurately comparable with the thing to be measured. For school measurement this requirement simply means that a scale must be administratively practicable.

5) Reference to a defined zero point. "One must know what fact would, by the scale as used, be measured as zero or just barely above zero. The zero-point may be *absolute,* meaning 'just not any' of the thing; or *arbitrary,* meaning a point *called* zero, though actually designating some amount of the thing." In making comparisons this point becomes of the utmost importance. "Silly as it may appear, we often with mental measurements do such arithmetic as the following: 'John weighs 10 pounds more than 60 pounds. James weighs 2 pounds more than 60 pounds. John is five times as heavy as James." "When any scale of amount is used, one's natural tendency is to interpret it as we have learned to interpret the common scales for number, time, length, weight, area, and the like—to regard every unit in the scale as equal to any other unit and to regard the zero of the scale as measuring *just not any* of the quality in question. The first necessity in the scientific treatment of any measure is to be aware of the meanings of the units which it repre-

sents and of the zero point from which it is reckoned." The most obvious violation of this requirement is the rule that 60 per cent on any given examination of the traditional type shall be the failing line: this rule not only assumes equality of zero-points, but equality of units as between the scales.

Possible Improvements in the Traditional Examination.

In view of the difficulties of reliable grading, the wonder is that grades are no worse than they are. Considerable sentiment might be worked up over the blind heroism with which instructors everywhere toil over this ungrateful task in which the inescapable consciousness of frequent error and injustice adds no mite of sweetness to the end of the day's labor. But the truth is that few if any instructors have ever adequately analyzed the problem, or formulated and acted upon any consistent principle or set of principles. Instructors generally take the view that there is no general principle that can be followed exactly and consistently in the matter. Until recently this was the general opinion about intellectual classification; it was assumed that "personal opinion," "reputation," and "rumor" were the only available or possible indices of a person's intelligence. But the application of the principles laid down above to intelligence testing has produced splendid results, and since it is apparent that the elements of the problem of school marking are analogous to those of intelligence testing, a similar application to our problem ought to produce similar results. The experiment reported below is a test of such an application.

IV. EXPERIMENT WITH A NEW METHOD OF EXAMINATION.

The Plan and Suggested Form of New Examination.

Researches in connection with the use at Columbia College of the Thorndike College Entrance Intelligence Examination as one of the criteria for admission brought out, among other things, the fact that grades in Columbia College, as elsewhere, are subject to grave charges of inaccuracy. In a suggestion to the Dean that the matter be experimentally investigated, it was pointed out that Columbia College presents in the course in Contemporary Civilization ideal conditions for a thoroughgoing trial of various kinds of measuring devices. This course, since it is required of all freshmen, includes a large number of students of varying ability, studying the same material as indicated in a very detailed syllabus, in the same time, by the same method of instruction and recitation, and under the direction of an unusually harmonious staff of instructors. In addition, there was available a reliable objective mental classification of the students in the course, as well as other data indicative of what might be expected from them.

The experiment as proposed was to include three steps:

1) An agreement as to what was to be measured;
2) The construction of a scale as nearly according to the principle laid down by Thorndike as possible under the circumstances; and
3) To measure every student in Contemporary Civilization with that scale, independently of and without in any way interfering with the regular examinations and gradings of the various instructors.

The suggestion, accompanied with a sample of the New Examination, illustrated below, was passed on to the instructors in Contemporary Civilization, who, in accepting responsibility for conducting the experiment, made it plain that their action was not to be interpreted as an endorsement of the New Examination. This fact is mentioned as evidence that the experiment was not a biased attempt to find support for a pet scheme or to force evidence into preconceived directions. While the experiment was proposed by several members of the staff, and all were quite willing to undertake the laborious task in the interests of science, the group of instructors as a whole presented a quite skeptical attitude as to the outcome.

Random Sampling from the New Examination Questions. The questions below have the numbers which they had in the various Parts and sections of the New Examination, and will serve to illustrate the characteristics of the New Examination, particularly the great range of material that can be covered in a short time by questions of these types.

PART I.

Directions for Part I. Read these statements and mark each one at the left of its number, with a plus sign if you think it is true, with a minus sign if you think it is false. Each statement marked correctly gives you a credit of one point; each incorrectly marked statement counts as a penalty against you, and is subtracted from your score; omitted statements count neither for nor against you. Your score will be based upon plus and minus signs; don't waste time writing anything else. First, go through the list quickly and mark all that you know for certain at once; then go back and study out the harder ones. Do not guess. The chances are against you on guessing. A wrong response counts heavily against your score. Don't endanger your score by gambling on those questions about which you know nothing.

A.

9. The civilization of the Phoenicians, Greeks and Romans centered about short river valleys.
12. Irrigation is carried on more extensively on the eastern than on the western slopes of the mountains of California.

B.

2. Education of the right sort increases the innate capacities of students.
16. Among animals under conditions of domestication instinctive behavior tends largely to be displaced by habitual or acquired modes of behavior.
17. In learning how to do something, *e. g.*, playing the piano, the effective responses need not be actually performed in order that the appropriate connections within the nervous system may be made and become habitual.
49. One advantage of customary morality is that customs adapt easily and quickly to changed conditions.
6. Mercantilism was the result of the nationalistic commercial rivalry which had supplanted that of the Italian and German city-states.
18. The enclosing of the "Commons" brought about a great increase in the number of small holdings.
28. Voltaire admired experimental science and "natural law," and was an ardent critic of contemporary conditions.
36. The success of the American Colonies in throwing off the British yoke is the more remarkable since they were opposed by a united and powerful England.
51. By his conquests in Central Europe, Napoleon retarded German unification by at least a hundred years.
68. The Declaration of the Rights of Man declared in favor of private property.

PART II.

Directions for Part II. Fill in the blank spaces so as to make sense and convey accurate and significant information. Each unbroken line stands for one word, but you may use more words if necessary.

A.

2. The uneven distribution of natural resources makes South America largely dependent for its..........on the United States; it makes the textile mills of Great Britain dependent for their cotton supply largely upon..........and..........; it renders the German iron industry almost helpless without the mines of..........; it leads the..........interests of the United States to be concerned about the Government of Mexico.

B.

4. The causes for physical fear are largely .... under the normal conditions of civilized society. But fear commonly displays itself in many subtle forms. In the economic life, for instance, we find that a .... percentage of laborers are in more or less constant fear of ....; and even where conditions are more stable, they are in fear of descending in their .... In politics fear is responsible for much of our ...., and not only in politics, but in our intellectual life in general we are prone to avoid the .... as though it were dangerous.

C.

6. By the Commercial Revolution the civilization of .... was extended to the ....; the standard of living was raised by the influx into Europe of ...., from ...., of ....

from .... and of .... from ....; and political power was shifted from the .... aristocracy to the ....

8. By the mercantilist policy the European powers sought to increase their .... and to decrease their .... Especially the .... of raw materials and the .... of finished products was encouraged. A representative mercantilistic statesman was ....

11. At the Congress of .... in 1814-15, the foremost .... of Europe assembled. In the name of ...., France was saved. In Italy .... supremacy was replaced by .... supremacy. In the Germanies a .... was created with .... at its head. Belgium and .... were .... and put under the House of ....

13. The doctrine of checks and balances was advocted by Jefferson as a safeguard against the oppression of a ....; but by John Adams as a safeguard against the tyranny of ....

PART III.

Directions for Part III. Underline the one word or phrase in each line that will make the statement most sensible and true. You are not penalized for errors in this test unless your choice is obviously preposterous, so that it pays to take a chance even where you are not quite sure.

A.

5. Most of the inhabitants of the British Isles belong to the race known as the Alpine, British, Teutonic, Mediterraneau, Basque, Celtic.

B.

1. Rural isolation is made unsatisfactory by the instinct of—Gregariousness, Love, Sympathy, Imitation, Reflection.
7. Miserliness or kleptomania are abnormal exaggerations of the instinct of—Hunger, Love, Acquisitiveness, Fear.
9. Under the regime of a truly reflective morality man's moral choices would be predominantly—Voluntary, Emotionless, Habitual, Customary, Instinctive.

C.

4. The Commercial Revolution by the 18th C. had established the commercial supremacy of—Spain, Venice, Portugal, England, Germany, Holland.
7. The followers of John Wesley are known as—Quakers, Baptists, Methodists, Unitarians.
11. The Tudors owed their power to the fact that their policies were in the interest of the—Working class, Nobles, Small freeholders, Bourgeoisie, Church.
21. Jefferson believed that the United States would continue to retain their democratic form of government so long as they—Promoted industrial development and the growth of city population. Remained an agricultural people. Upheld strong centralized government instead of the petty subdivisions of wards, towns, etc. Prevented any tampering with the constitutions designed by the Fathers.
30. The passage of the Reform Bill of 1832 was a victory for the—Agricultural landlords, Farm laborers, Factory workers, Well-to-do middle class.
31. In his political philosophy John Locke advocated—Divine Right, Social Contract, Communism, State Socialism, Economic individualism.
38. The period from 1815 to 1848 is especially significant because of the—Ultimate success of the Metternichian principles. The checking of the power of the Bourgeoisie in favor of the lower classes. The sweeping religious reforms within the Christian churches. The gradual development of the principles of the French Revolution.

The Making and Administration of the New Examination.

The original sample included four kinds of tests—True-False, Completion, Recognition, and Association. The staff decided to try out the first three by giving two of the three hours of the final examination period for the purpose. A committee was appointed to draw up the New Examination, and to make up an examination of the Old or Essay type to take the first hour of the three-hour final examination period. It is believed that this One-Hour Essay Examination is superior to the average essay type examination that is given in colleges.

Contemporary Civilization A1
1920-1921
Final Examination
One Hour

Directions: Choose ONE topic from EACH group. These topics cannot be fully discussed on the basis of any one section of the syllabus. To discuss your two topics successfully, you must bring together and organize material from various parts of the semester's work.

GROUP I

1. Discuss conservatism or opposition to change, including in your discussion the bases of conservatism in human nature, the influence of various types of geographic environment making for conservatism studied this semester (as, for instance, in the manorial system, gild system, etc.).
2. Discuss science, scientific method and the laws of science, including in your discussion a definition of scientific method and an analysis of the part science has played in the intellectual, economic and political changes from medieval to modern life.

GROUP II.

1. Define the major groups or classes in England or in France in the early 18th century, and show in some detail the conflicts of these groups and the changes wrought in them and their relative position by the political, economic and social changes of he 18th and first half of the 19th centuries.
2. Discuss the relative position and condition of the Maker of cotton or woolen goods in England before and soon after the Industrial Revolution, bringing to bear upon this discussion your knowledge of social conditions and of human nature.

The general procedure followed by the committee was to assign the questions to the various large divisions of the course covered up to the time of the examination approximately in proportion to the time and emphasis that had been spent upon each such division. Groups of such divisions were then assigned to the several members of the committee; the questions were constructed by each committeeman by reading through the syllabus and through the texts and selecting important facts and relations; those that seemed best suited to the True-False form were tentatively put in that form.

When each committeeman had collected a large number of questions on his assignment, they were presented to the full committee, which revised and culled them carefully. This detail is noted here because the staff believes that a combination of judgments in the making of any kind of examination is highly to be recommended: it often happened that a very poor or indifferent question was made over into a very excellent one simply by changing a word here or correcting an ambiguity there which had escaped the originator. In this way the committee collected and presented for the approval of the staff about 250 questions of all kinds. The One-Hour Essay Examination was approved as shown above. Of the New Examination questions, the staff approved 139 True-False, 14 Completion paragraphs, and 61 Recognition type questions. These were printed on standard 8x11 paper, and bound into a booklet convenient for handling and for recording the responses easily and unambiguously.

There was some fear lest the number of questions was too great for a two-hour period, but this fear was quickly dispelled. The test was given to 440 freshmen in Contemporary Civilization at one time in one room; fully a fourth finished the test and left the room before time was called; one finished in 58 minutes. The booklets were scored by the staff of instructors with the aid of stencils and keys which were prepared by the whole staff sitting as one committee.

One of the first and most significant questions asked by the various instructors was, What will be the passing mark on this test? Most examiners and schools cling to "sixty" as the passing mark, and fondly imagine that a definite and invariable standard has been set up. In practice this scheme simply amounts to a combination of two very mobile variables: the specific examination used, and the individual instructor scoring it. The procedure is based on an assumption which is contrary to fact: we know that some examinations are to others as a rod is to a yard, and that therefore 60 on one may be better than 80 or poorer than 40 on another. The only common element in the traditional examination is the useless one of having nearly always 100 units; the relation of these units to each other, in the same or in different examinations, is usually a matter of pure chance or of guessing.

Obviously it would have been absurd to fix beforehand the passing mark on the New Examination, because no one knew how difficult it was. If the traditional spurious 60 per cent correct had been adopted, more than half the students would have failed, since the average score was about 125 out of about 250 possible points of credit. In this experiment the controlling factor in evaluating the New Examination scores was the practical desire of making them comparable to the existing standards in the course. This was done by securing a distribution of grades given to the students by all means other than the New Examination, and then fitting the distribution of the New Examination scores to that of the other grades by making the Means of the two coincide, as is roughly indicated in Figure I. The New Examination scores were then expressed in terms of the variability of their distribution, translated into letter-grades, and averaged with the old scores in order to derive the final marks of the students for the semester.

The reader has probably already surmised the basis of grading adopted in this experiment: Knowledge of, and ability to think in, the material of the course as presented in the syllabus and in classroom meetings.

Statistical Results. The data used in the statistical studies summarized below include the following:

1) Thorndike Intelligence Scores. These were secured from the Admissions Office, and are based on the Thorndike College Entrance Intelligence Examination which constitutes part of the admission machinery of Columbia College.

2) Instructor's Estimate of Intelligence. Each instructor gave an intelligence rating to each student in his class on the basis of all available data save the Thorndike scores. These ratings were expressed in terms of letter-grades, A meaning very superior intelligence, B superior, C average, D inferior, and F very inferior.

3) Instructor's Estimate of Achievement in the Course. This rating was secured in the same way as (2) above, being based upon all data available to each instructor on each student in his class, including class work, weekly and monthly quizzes, mid-semester examination, etc. These ratings were made before the final examination was given.

4) Score on the One-Hour Final Examination of the traditional essay type.

4a) Re-score on the same by a different instructor.

5) Part I of the New Examination, consisting of 139 True-False questions, the score being the number of Right Responses minus the number of Wrong Responses.

6) Part II of the New Examination, score on 14 Completion paragraphs.

7) Part III of the New Examination, consisting of 61 Recognition questions, the score being the number of right responses.

8) Total New Examination Score (= Sum of Parts I, II and III).

9) Combination of (3) and (4) above, by simple average of the two scores. In order to secure a more workable distribution, all the ratings supplied by the instructors were in terms of the conventional letter-grades A, B, C, D and F, each divided by the use of plus and minus signs, e. g., A +, A, A —, B + B, B —, and so on to F —.

10) Combination of (4) and (4a) above, by simple average of the two scores.

Types of Distributions. A very important fact appears at a glance in the distributions of these ten series of data. All the available data on the students involved in this experiment indicate that their real abilities and achievements are distributed approximately as the probability curve. Space allows only one example. On the One-Hour Final Examination about 80 per cent of the students receive a grade of B or C; only about 4 per cent get either A or F. This means that practically 80 per cent of the students are unclassified, though there are quite sensible differences among them, as shown by the fact that when the artificial restrictions are removed through the use of plus and minus signs, the classification is much improved, the number of significant steps of merit being increased to eight or ten. The distribution of New Examination scores approaches the normal surface of frequency even more closely, giving about fifteen significant steps in a total range of twenty steps.

The important fact illustrated by Figure I is that the instructors themselves, when allowed to do so, classify the men in such a way as to give a distribution sensibly similar to the normal curve. The traditional five-letter scale is so hedged about by regulations and traditions that in reality it permits only a two or three-fold classification with any freedom. As to the A-grade, it is reserved only for the elect few, for the obvious genius and his too-few companions; D and F are grades reserved for the other extreme of the curve of success, for the obvious failure as a college student; for the great mass of students between these two wide extremes there remain only two categories, B and C. This is a notable example of the failure of educational administration everywhere to appreciate and use fully the information which instructors are able and usually willing to give, even with the very imperfect instruments of measurement which have been available.

Correlation Results. The correlations derived from the data mentioned above offer very strong evidence in favor of the New Examination as a method for measuring school work. We know from various sources that the more accurate school marks become the more highly they correlate with general intelligence up to a certain limit, say, about five—or six-tenths. Any one of the three parts of the New Examination correlates more highly with the Thorndike Intelligence scores than any of the marks derived by the old method of assigning grades; and the total of the New Examination gives a considerably higher correlation index than either the One-Hour Essay Examination or the Estimated Achievement.

TABLE I.

Pearson Coefficients of Correlation.

	1	3	4	5	6	7	9	11	12	13
1. Thorndike Intelligence Scores.										
2. Instructors' Estimate of Intelligence	.421		.630							
3. Instructors' Estimate of Achievement	.358		(.707)*							
4. First Grading of One-hour Essay Exam.................	.386		(.663)							
5. New Examination Part I..	.451	.557	.605	(.809)	(.761)	(.733)		.625		
6. Part II..	.497		.611		(.800)			.626		
7. Part III (Rights)..........	.447		.586			(.573)		.621		
8. (R-W)..........	.442		.567							
9. New Examination Total (III R)	.513	.620	.654				(.905)	.680	.533	.683
10. New Exam. Total (IIIR-W)			.644							
11. (3) plus (4).										
12. Second Scoring of One-hour Essay Exam.										
13. Combination of First and Second Gradings of Hour-Essay Exam.										

But it would be erroneous to charge that the New Examination is therefore simply another intelligence test. It correlates still more highly with the One-Hour Essay Examination and with the Estimated Achievement. These two coefficients are almost as high as that between the One-Hour Essay Examination and the Estimated Achievement, the latter being seven-tenths, and the former .65 and .62, respectively. Part I alone gives r =.605 with the One-Hour Essay Examination, while Part II alone gives r =.611, and Part III, r =.586. The near-equality of these coefficients is significant with regard to the reliability of the New Examination, and will be recalled when this important matter is discussed farther on.

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*Coefficients placed in parentheses are reliability coefficients based on 117 random cases; in all other cases, except those numbered 12 and 13, N=335.

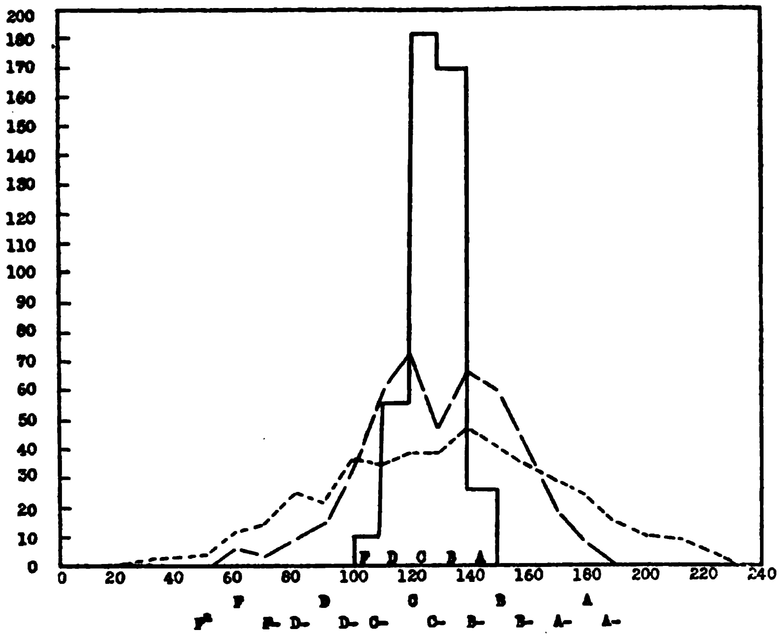

Figure I. Graph showing types of distributions of college grades given to the same group of students in the same course. The narrow curve in the center is the typical distribution found in nearly all college courses where five degrees of merit are in vogue. The dash line curve shows the great improvement due to the use of plus and minus signs with the five letter grades. The dotted line curve shows the distribution of the same men effected by the New Examination.

In view of the careful manner in which the Hour-Essay Examination and Estimated Achievement grades were derived, they may be accepted as more reliable and accurate than is usual with similarly derived marks as ordinarily dispensed by teachers. It is not a violent assumption to argue that the average or these two marks is more accurate and reliable than either one alone; granting this, we have another check on the New Examination, for if it is a good instrument, its measurements will correlate more highly with the average than with either one alone. Not only does the New Examination Total correlation with the average go up, from .65 to .68, but the correlations of the three parts of the New Examination with the average go up slightly.

An interesting observation may be made at this point as to the relative merits of the three parts of the New Examination. It will be noticed that Part II, the Completion test, gives the best results by whatever criterion it is judged; Part I, the True-False questions, holds its rank as second best by whatever criterion it is judged; Part III, the Recognition test, holds third place by all the criteria. But of even greater significance is the near-equality of the indices of the three Parts, because this indicates great reliability in the New Examination. The slight differences may be due to the time element, since Part I was allotted 70, Part II 35, and Part III only 15 minutes. The efficiency of the New Examination method is evident from all these considerations.

Additional evidence that the New Examination index is limited by the weakness of the criterion is afforded by data on 117 random booklets of the One-Hour Essay Examination which were regraded in lots of about ten each by twelve members of the Contemporary Civilization teaching staff. The booklets were so arranged that those who regraded them could not know the student's name, his instructor, or the first grade on the booklet. Presumably, the average of two judgments on the examination booklets is better than either one of the two judgements alone; and if the New Examination index is limited by the weakness of the first grades on these booklets, the correlation index with the average ought to rise. The correlation of the New Examination with the first grades on the 117 booklets is $r = .599$; with the re-grades, $r = .533$; and with the average of the two, $r = .623$.

Influence of Personal Acquaintance. It may not seem out of place to interject at this point a remark on the influence of personal acquaintance of the marker with the student whose work is being judged, since it has been asserted earlier in this paper that personal factors have a large influence. The first grades on the 117 booklets described in the last paragraph were given in each case by the student's own instructor in the course; the re-gradings were, as pointed out above, entirely *incognito.* The correlation coefficients given in the last paragraph indicate that the essay examination gives better results on the whole when the student is known to the reader; but specific cases are available to show that the influence of this personal factor is so great and so insidious that it leads the most careful readers astray. A booklet graded A — by the student's instructor was regraded as D; a B was lowered to D —; a C + was raised to A—; a C was lowered to F. The regrading increased the variability from $S' = 2.06$ to $S'' = 2.84$, and placed the Mean about $.41(S' + S'')/2$ below the Mean of the first grading. It may be inferred that whenever the quality of an examination paper disagrees noticeably with the reader's existing personal appraisal of the student, objectivity of scoring, in whatever small degree it may be said to exist in such scoring, simply vanishes altogether: the reader who knows the student and has formed a good opinion of him will unconsciously (or perhaps consciously) overlook and "explain away" the weakness of his examination paper; the reader who does not know this bright-appearing and easy-tongued student, and thereby has no temptation to become a court of equity, grades his paper according to the standard applied to the other papers, and so instead of giving an A — gives a flat D.

Reliability of New and Old Methods. On the count of reliability all available data favor the New Examination method. By reliability is meant the amount of agreement between the measurements of a series of objects given by the same measuring instrument on two or more different occasions. The correlation between the Estimated Achievement grades and the One-Hour Essay Examination grades is $r = .70$; but because of the undoubtedly large influence which the estimate of general achievement had on the grading of the One-Hour paper, we can hardly consider it a valid reliability index. It was to get a straight reliability coefficient on the traditional essay examination that 117 booklets were regraded. The correlation of the first grading with the regrading is $r = .663$. This, although it almost certainly flatters the essay examination method considerably, is a little less than the correlation between the New Examination and the average of the Estimated Achievement and One-Hour Essay grades. The New Examination correlates with the Hour-Essay Examination almost as well as the latter correlates with itself! The self-correlation of Part I alone of the New Examination is r =.80, taking even so rough a division as alternate fives of questions; the reliability of fourteen short completion paragraphs of Part II, seven odd-numbered against seven even-numbered, is r =.80; and the reliability coefficient for the whole of the New Examination, by the same rough grouping of questions, is r =.905.

General Considerations: Although the correlation results furnish the most scientific and convincing evidence on the New Examination method, there are certain general considerations the appreciation of which happily does not depend upon familiarity with statistical terms.

At first sight, the New Examination appears to put a preponderant emphasis upon sheer memory of isolated facts; but a study of the questions reveals that, on the whole, they constitute a severe test of judgment and of thought-organization in the material of the course. The questions involve facts, more facts than can possibly be touched upon in the old essay type of examination, but they do not call for a mere memoriter reproduction of disconnected facts. We cannot have thinking without facts. Modern psychology teaches us that facts do not exist in isolation. Except by chance, which is provided against in the great number of questions and in the manner of scoring, a high mark can be secured only if the student has organized the "isolated" facts into a definite system of thought.

The large number of facts which can be touched upon by this method is possibly the strongest point in its favor. One of the chief weaknesses of the traditional essay examination is that it has, and can have, so few questions—usually about ten. Many instructors feel this limitation acutely; they quite reasonably become impatient with the idea of determining a student's gains from four or five months' study in a course by having the student prepare in three hours eight or ten short impromptu essays on a few leading questions. The New Examination is not restricted in its scope to a few "high spots" in the course; it tests the student's knowledge of and ability to think in the whole content of the course.

The large number of questions is made possible by the simplicity and efficiency of the process of recording responses. This is not to be confused with simplicity of the thought-process. The thinking and judgment involved in responding correctly to each of these questions would probably not suffer by qualitative comparison with the processes by which thie brief essays are produced. In the essay examination a comparatively large proportion of time is devoted to the mere recording of what the student has thought out; in the new method a minimum of time is required for recording responses, and a maximum is left free for unhampered thinking.

Nor is there any significant distraction in the new method of recording responses, as in the customary examination. In addition to the distraction and time lost due to the purely physical elements of producing several pages of manuscript, there is quite an appreciable distraction and loss of time in casting the responses in agreeable prose form. Up to a certain point, the essay examination is really a test of English composition ability in a peculiarly urgent and impromptu situation. Whether this is a desirable feature or not is a matter for the philosophers to determine; but it is well to recognize that there is a mixture of functions, which in many cases of special disability undoubtedly produces serious distortion of indices.

Some instructors and many students feel that the very limited number of questions possible in the essay examination renders it subject to frequent and grave chance errors. It is certainly far from absurd to say that many good students might by pure chance know little or nothing about one, two or even three questions in a given series. In a ten-question examination, where all the questions are considered of equal value (which is very frequently the case), such a chance situation would, at one fell stroke, reduce a student's grade by one, two or three-tenths—a reduction dangerously near the fateful point of sixty and failure. The New Examination, by reason of the large number of questions which may be included in it without crowding the examinee for time, reduces the factor of chance to a minimum; the student has two or three hundred chances as against ten to pass or fail. To fail on ten questions out of a hundred is not the same as to fail on one out of ten.

In still another way the number of questions has considerable influence on the validity of an examination. While it may be only in primitive communities that examinations are made of eight or ten questions which are *assumed* to be of equal value and of equal difficulty, and are marked each on the basis of one-eighth or one-tenth of the total possible score, still it must be admitted that where differences in the values of questions are considered at all, they are invariably appraised by purely subjective methods. Errors inevitably creep in wherever and whenever subjective methods are used for such purposes. It is not claimed that errors of evaluation of questions in an examination are avoided in the New Examination. But it is apparent that in examinations which have only a few questions, such errors of chance and subjectivity enjoy their maximum influence. In an examination which consists of 200 or 300 questions, there may be very large differences without significant vitiation. Where the scale units are very gross, as in the essay examination, all manner of chance or systematic error in evaluation and in scoring is exaggerated to the utmost.

It will be recalled that the first essential for a valid scale for mental measurement was stated by Thorndike to be Objectivity. The facts of a subjective scale are well illustrated by the following anecdote concerning the grading of history papers by a group of college professors of history in the summer of 1920. One of five or six expert readers assigned to a certain group of history papers, after scoring a few, wrote out for his own convenience what he considered a model paper for the given set of ten questions. By some mischance this model fell into the hands of another reader who graded it in a perfectly bona fide fashion. By routine all papers scored below passing by the first reader are regraded by several readers so as to insure justice to the borderline cases. In this process this "lost model" was graded all the way from 40 to 90! Many such incidents might be dragged forth to illustrate the "uniformity" which is injected into a subjective measuring device "by conference among the readers."

Such an anecdote would be impossible with a scale such as the New Examination. Only in the completion and association parts does the subjective appear at all; and here the units are so numerous and small that possible distortion is reduced to a minimum. In all other parts the scoring is absolutely mechanical, and may be done by intellects of lesser weight than the expensive ones now periodically forced to the unwelcome task of reading hundreds if not thousands of pages of very poor prose. Whereas equally competent readers vary as much as 50 per cent or 60 per cent of the total range of credits in judging the same identical examination paper of the essay type, it is inconceivable that readers could vary more than a maximum of four or five per cent in grading a given example of the New Examination.

Pedagogical Value of New and Old Methods of Examination. A thoughtful student of the problem has suggested the question of the comparative pedagogical value of the New and the Essay types of examinations. He says that we "frequently hear the thesis that a quiz is only incidentally a means of marking; that its primary importance is its pedagogical value. It gives the student an opportunity to develop logically a topic or theme, to practice selecting relevant facts, to react in an orderly and systematic way toward problems," etc.

This question, which relates essentially to the proper functions of examinations, is very opportune. The theory of this experiment is that marking is a desirable objective entirely independently of pedagogy, and that accurate measurements of school products are becoming more and more indispensable in a complex society in which the problem of adjustment and adaptation daily becomes more acute. The purpose of the experiment was to demonstrate the value of the New Examination method *as a measuring device.* The instructor who raised this question admits that "If an examination is merely a means of getting a mark or measure of the student, then (the arguments contained in this report) must be conclusive." If this is so, if this experiment has conclusively demonstrated the superiority of the New Examination method over the traditional method of *measuring* school products, the efforts of the experimenters are more than repaid.

There is really no controversy possible over this question, so long as we recognize that there are two distinct ends to be sought, two distinct functions to be served; and so long as we recognize that each may be served better by different agencies or methods. Nothing in this report can be interpreted as an attack upon any pedagogical device whatever; but the fact that a type of examination has pedagogical value does not necessarily imply that it also has measurement value. Many excellent pedagogical devices, as far apart in method as the rod and moralistic essays, which are in constant and respectable use, are never thought of as measuring devices.

The writing of essays is a time-honored pedagogical device which is in a sense the historical descendant of the mediaeval disputation; its vogue in modern education in the role of a pedagogical device is attested by the frequency with which we find the work of courses in high schools and colleges described as "lectures, conferences, (*written*) *reports, theses, assigned papers,*" etc. While the pedagogical value of themes, theses, and dissertations is unquestioned as ordinarily used in the simple role of teaching device, there is grave doubt as to how much of this value survives the special conditions which obtain when the essay is used ostensibly as a "test." The old disputation was primarily a test of ability "to think one one's feet;" the essay examination is largely a test of abliity to write in a hurry, under compulsion, as ideas come. When thus used it is a serious question whether it is not really negative in its pedagogical influence: it is certainly a very urgent temptation to be extremely free with the King's English, and perhaps it is not as inhospitable to hasty and disordered thinking as it is reputed to be.

Economy of the New Method. While the principal economy of the New Examination method is its greater accuracy and reliability regardless of cost, the question of time and labor required for effective administration of measuring devices is distinctly favorable to the New Method. The questions can be made out in about the same time required for making out a good essay type examination, and they can be scored in a fraction of the time and with a fraction of the labor required for scoring carefully essay questions. The mimeographing or printing of the New Examination questions will require only a negligible expense of time and labor which will be more than offset by the economies of objective scoring.

These conditions hold especially for large classes, and for examinations whose main purpose is that of measurement. For very small classes, and for quizzes whose main purpose is pedagogical or disciplinary, the New method is not especially recommended from the viewpoint of economy in time and labor, although in point of accuracy and reliability it would be better even for such small groups and special purposes.

No technical knowledge of psychology or statistics is required for the administration of the New Examination method beyond what may be easily learned by the average instructor in an hour's study. The casting of a distribution of the scores, the calculation of the median and other percentiles, and the assignment of letter-grades to each percentile range, are matters which may be thoroughly mastered by doing them once under the guidance of a statistician, or by consulting any elementary textbook on statistics.

Recommendations. In view of these considerations and the experimental results reported above, it seems justifiable to recommend that instructors give the method a trial. It is not difficult to make up an examination of this kind. It seems to the authors of this report that a combination of the New and Old methods affords for the present the safetst starting point. The best procedure is to look through the syllabus of the course (or whatever serves in its place) and select important points or facts or relations or judgments to which the student should react in a certain way, and then make up for each item so selected just that form of question which will elicit that response from the student in the most efficient way if he knows it. Only two precautions are necessary, first, insure high reliability by including not less than 100 questions in all; second, take the Mean or Median as the point of origin in evaluating scores. It is important to remember that this report is advocating a method, not a 'standard' examination. The New Examination does not of itself tell just how many or which students should be passed or failed; but it does put them in preferential order: it ranks the students in order of merit with respect to the subject-matter represented by the examination. The instructor still will be required to decide from his own judgment just where the 'axe' will fall, just as he now does with the traditional method; but with the new method he can make his judgment more intelligently, and with greater accuracy and reliability in the final outcome.

The new method, which may involve True-False, Completion, Recognition, Judgment, Association, or Trade-form questions, is adaptable to nearly all descriptive courses, including all the social and physical sciences. It is especially adaptable for testing knowledge of all foreign languages, ancient and modern. Except for courses in English composition, in which, of course, the essay is the peerless instrument, the new method lends itself easily for examination purposes in all English and literary courses. The best test for mathematics, as for English composition, is a performance test; but the principles of the new method can be applied even here, most especially in the case of mathematics examinations.

Instructors' Opinions on New Method. It may be of interest to some readers to know the attitude toward the New Examination of some of the instructors who sat in judgment on it in this experiment. Some of these instructors have written memoranda for this purpose, of which the following are excerpts. These statements are all the more significant when we realize that their authors in some cases were at the beginning quite skeptical of the new method.

1. "When the suggestion was made that we should employ a modified 'psychological test' for examining students in our regular college courses I was interested but far from sure of the usefulness of such a test as a means of arriving at a true estimate of a student's accomplishment in a given course. My experience with it has thus far been too brief to warrant a categorical statement, but all the evidence (and of this I am reasonably convinced) seems to point to the conclusion that it is much the most accurate method of testing students' knowledge of the subject that we have yet discovered. It does not, however, in my judgment, test sufficiently the student's power of accurate and cogent expression, and his ability to organize his material. I should therefore feel that in an examination adequate time should always begiven for at least one or two questions of the essay type.

"Austin P. Evans,
"Assistant Professor of History."

2. "One of the most startling results of the New Examination has been to bring home to most of us the utter failure of our most careful efforts to eliminate our likes and dislikes for students from our estimate of their achievements, and to make this failure seem a very grave continuing chance for injustice and unreliability to persist in the old methods.

"With this premise I, at least, am forced to the conclusion that something must be substituted for the old methods. And when the elements of the usual university undergraduate situation are taken into account—the fact of what we call mass education; and the fact of the certain inability of the instructor to form any intimate and effective personal contact with each of his students—something like the method of examination hit on here seems inevitable. Luckily, the objective results are convincing to instructor and student alike. One of the irritation points of teaching is the uncertainty that fairness to the student has been accomplished. The New Examination relieves the teacher of the necessity for defending his position; an endless source of unpleasant bickering is eliminated.

"Furthermore, the pedagogical value of examinations is appreciably increased. The feeling of the fruitlessness of mere markings is decreased in proportion as the feeling grows that students are stimulated to comprehensive and valuable review. The premium on spotty cramming is removed. The certainty that examinations will be full as well as fair is a constant stimulation to consistent effort throughout the period of study covered by the examinations.

"R. G. Tugwell,
"Instructor in Economics."

3. "The essential feature of the new examinations is that they substitute a large number of specific questions for a few general questions. They are, therefore, a difficult type of examination to frame, since it is not easy to choose and to word carefully some two hundred questions. But if the questions are well chosen and well stated, then this kind of examination undoubtedly makes for more accurate grading since the instructor is obliged to focus his attention again and again on specific points. The inaccuracies due to grading on the basis of general impression made by an extended composition are eliminated. The pedagogical value of these examinations lies first in the fact that a very wide field of information can be covered in the same amount of time, and still more in the fact that the student must make his ideas on definite questions clear and distinct. The only disadvantage from the pedagogical point of view is that the student receives no practice in expounding his views at length; but the quality of exposition made possible for the average student within an examination period is not high enough to make this consideration very serious. If examinations aim to provide a basis for grading and at the same time to discipline a student's judgment, this seems to be a good type of examination.

"The experimental proof of the reliability of the examination is, of course, apparent in the correlations and other objective facts cited in the report.

"Horace L. Friess,
"Instructor in Philosophy."

4. "I am convinced that the type of examination used at the end of the first semester of our course in Contemporary Civilization is a very great improvement over that heretofore in use.

"I believe the testing of accomplishment by means of a paper made up of several fifteen or twenty-minute essay questions is fair neither to student nor examiner. If the questions require the marshaling of material from a range of sources, the vaguest generalities only can be stated in the time allowed. If they call for specific information, the range of topics will be too limited for an adequate estimate of the student's grasp of the whole subject. Marking is bound to be subjective, and the preservation of uniform standards throughout a long series of papers of the essay type most difficult for the examiner.

"I believe the new type of examination, to be most successful, should include both parts used last term, namely, (a) A two-hour examination of the new type; and (b) A one-hour paper consisting of one or two essays upon topics selected from a fairly large number of choices.

"The chief points in favor of the New Examination seem to be:

"a) Complete objectivity in marking, making the marking of examiners identical, and insuring uniformity no matter how long or how numerous the marking sessions. Despite the scope of the paper, no longer time is required in marking it.

"b) Both specific information and ability to make judgments involving a thorough understanding of the subject-matter of the course are tested.

"c) Thoroughness—information or judgment called for is specific in all cases, making vague generalizing impossible.

"d) Comprehensiveness—no student can complain that the examiner hit upon his weak points only. The entire range of the course is covered.

"e) Reliability—the above features make one more confident that a just estimate of the student's achievement is made than heretofore.

"The second part of the examination is a necessary complement of the first. It emphasizes the synthetic aspect in essays upon carefully chosen topics involving the organization of material from a variety of sources more effectively than under the old system. The mere selection from the list is a test of the student in itself. The fewness and length of the essays invite more care on the part of the student than did those under the old system.

"A. Gordon Dewey,
"Instructor in Government."

5. "My own experience with the new type of C. C. examination was especially happy. New to the institution and instruction of the course, I had not even the usual background of exchange of opinion and comparison of individual grades which one gets after some experience in any group of instructors. I felt quite at sea as to the point at which I should draw the failure line and as to what I should consider excellent or A work. There was no administrative mechanism at hand to assist me at all in the comparison of whatever crude standards of performance I had with that of others.

"The new examination served admirably this purpose of orienting my judgments with a common judgment of the group of instructors. Does it not possess in the teaching situation of several sections of a large class this specific utility independently of any other use?

"As to my own standards of comparing students with each other I have never felt any great confidence or faith, and I welcomed this opportunity to get an objective measuring device. In its operation I could see no flaws either in its objectivity or in its ability to test the actual performance of the members of my class as students. It seemed to me much less subjective than my previous individual tests, although I have always attempted to hide identity by turning under names, etc., and having my wife check up by recorrecting cases that seemed doubtful.

"The New type examination was accepted by my students with practically no exception as requiring more extended and searching preparation. Many have given me personal testimony to the effect that they feel they are more thoroughly tested and that they are obliged to work harder in preparation in order to make a good showing. Furthermore, they like it and respect its results. The attitude assumed is that of an interesting and exciting game rather than two hours of drudgery. There are no post-mortem requests for change of grades, special dispensations, etc.

"Many of us feel that in a broad and comprehensive survey course such as Contemporary Civilization there is a constant tendency to develop easy and facile repetition of generalizations transmitted through texts without the student's seeing the facts behind on which these generalizations depend. This new type examination has the pedagogical advantage that it discourages this sort of preparation and expression by the students. It is especially adapted to asking for judgments based on specific significant facts. In the old or essay-type examination this type of testing could be obtained only by selecting a few of the facts, and running the risk of being unfair, because of the inadequate sampling of the semester's work.

"With the new type of examination with its adequate testing of fact-bound judgments, the essay type is removed from its double task and set free to test more adequately what it is best designed to test: comprehensive organization of relationships; expression of a general synthesis or philosophy of the entire field of study. Very interesting experiments in these essay questions might be attempted, which might develop more adequately than has before been done, the inventive power of students in seeing unconventional relationships and expressing a philosophy based upon the substantial background of a considerable period of study. "ROBERT D. LEIGH,
"Lecturer in Government."

6. "The new form of multiple question objective examination gave a standard measure practically free from personal judgments. In addition it enabled the examiners to set questions on the whole content of the course. The students were pleased at the fairness of the examination, and, on the whole, preferred it to the essay form.

"Experience with the handling of the test convinced me that it was much less of a mere fact collector than most of us feared. Judgments and inferences were required even in the *true-false* section. In spite of this fact I believe that a part of the examination time, one-fourth at least, should be given to a comprehensive question on a subject-matter requiring the weighing of evidence or the balancing of possibilities.

"For small groups the labor of preparation and scoring is markedly greater than that required by the old method. Instructors who mark the tests themselves will be even more bored than when marking the essay type, and in addition will find themselves at a loss to weight the test and equate the score with letter-grades unless they have technically trained statistical guidance.

"The examination is used most satisfactorily for a large class. It should be a long examination, more for the sake of testing the students than for increasing the accuracy over a shorter test of the same type. Assistance should be furnished for scoring, and the derivation of the final score should be in the hands of psychological statisticians. JOHN J. COSS,
"Assistant Professor of Philosophy
and Director Summer Session, Columbia University."

TRAINING COUNTY SUPERINTENDENTS AND RURAL SUPERVISORS IN SERVICE

ADELAIDE M. AYER,
State Supervisor of Rural Schools in Montana.

That there is need in *most* states, at least, for training superintendents and rural supervisors in service there can be little question in spite of the fact that this subject has scarcely been touched in national educational meetings and in our best educational journals. The dearth of literature on this topic is astonishing when we realize that the responsbility of administering and supervising the schools attended by over half of the children of the nation is left almost entirely to untrained county superintendents and their assistants. Only about a half dozen educational institutions in the United States have begun to attack the problem of training county superintendents, and these in only a very meagre way. Why the country's great educational institutions, socially-minded educational writers, and even state departments possessing authority and responsibility have passed this question by apparently with little thought is difficult to understand. A convenient partial explanation may be found in the well-known tendency of human nature to follow the line of least resistance—for surely the training of administrators and supervisors for our urban schools, to which much attention has recently been given, is child's play in comparison to training county superintendents. The following specifications may help the reader to appreciate the situation:

There is scarcely an administrative duty of the city superintendent which is not also the duty of the county superintendent. Added to these responsibilities is the problem of keeping in touch with a large number of schools scattered over an area of many hundreds and often many thousands of square miles; of training in service a frequently-changing group of immature teachers, a large proportion of whom have not even completed high school; of adapting for a short term in a school of many grades a curriculum intended for city schools of nine or ten months; of constantly fighting rural child-labor and non-attendance, which statistics show in many states are much more serious in the country than in the city; of dealing wisely in certain typical situations with possibly several hundred school board members; of settling innumerable legal disputes over district boundaries, location of school house sites, etc.; of apportioning school funds to both urban and rural districts; and of constantly educating the public to needed legislation in order to equalize educational opportunities. These are the main lines of training that a county superintendent needs over and above that given to other administrators and supervisors. Is it not time that the problem be attacked?

Before we can determine what training is needed we must have some idea of the previous education and experience of those who hold the positions of county superintendents. From the latest available data I have found that county superintendents are elected in twenty-nine states and appointed in eleven states. In the seven northeastern states having district or union township superintendents all are appointed or selected by school boards of a union. In one state deputies of the state department do the work usually delegated to county superintendents. In the majority of states the qualifications of county superintendents are seldom higher than the possession of a first grade certificate and two or three years of experience in teaching. In several states any legal qualified voter is eligible to hold the office of county superintendent. One may occasionally find even in our most progressive states a county superintendent who has never finished high school or one who has never taught or one who has barely reached the age at which he is allowed to cast his ballot. Fortunately qualifications for rural supervisors are, as a rule, and on the whole, somewhat higher,—though in spite of the meagre qualifications required in most states, probably every state has a few county superintendents or their assistants who for practical efficiency may put to shame many well-prepared supervisors and administrators. However, as a rule the background for county superintendents and rural supervisors is such that we must start from the bottom in training them to become administrators and supervisors.

A few months ago a personal letter was sent to every state department asking what was being done by higher institutions or by state departments to give training in service to county or district superintendents and rural supervisors. The replies from forty-two states may be classified as follows:

1. In six states, state departments are giving close supervision of county or union township superintendents and their assistants thru frequent conferences, thru visits to counties for the purpose of assisting county superintendents, thru circular letters and outlines, and thru stimulation to do extension work in state institutions.
2. In two states a large proportion of the county superintendents in 1920 attended the summer sessions of some of our best known higher institutions.
3. In seven states, institutions, usually under the direction of the state department, are giving definite courses for county superintendents lasting from two to six weeks.
4. One state has had a special six weeks' summer course for training "helping" teachers.
5. Fourteen states are doing nothing more than to hold annual conferences lasting from one to five days.
6. Twelve states are making no attempt whatever to train county superintendents and rural supervisors.

It is evident that so little has been done to counteract this great weakness in American education that almost any constructive program of training will be pioneer work. It seems to be peculiarly the duty of state departments as represented by their rural school supervisors in states which have such officers to frame and to carry out a definite program of training in service of county superintendents and their assistants. There are at least six fundamental principles involved in such an undertaking:

1. *There should be a well defined program of training.* A minimum amount of legislation should be enacted or state board requirements made so that this training will be generally accepted as a part of a bigger educational program rather than a spasmodic feature left to the caprice of state departments and higher institutions.
2. *The state department of public instruction should be responsible for this training.* The courses should be carefully worked out with state institutions, though certain courses may best be given by representatives of the state department as they usually know the immediate needs of the state and of the county superintendents and supervisors better than university and normal school faculties can possibly know them. This assumption, however, presupposes that *as well trained people are to be found in state departments as in state institutions.*
3. *Intensive courses for county superintendents and rural supervisors should be planned specifically for them.* Teachers and city superintendents and supervisors with different interests should not be allowed in the same courses.
4. *There should be some differentiation in training of county superintendents and rural supervisors.* The former should, for example, have a much more detailed and intensive training in administration than the latter.
5. *The aim should be the initiating of growth rather than the standardization of practice.* This involves the differentiation of problems for superintendents and supervisors of different counties.
6. The training of county superintendents and supervisors should be along three lines:
   (a) *Definite courses at state institutions.*
   (b) *Frequent conferences of the entire group and smaller groups geographically located.* One annual general conference should be at least two weeks in length. Attendance at this conference should be compulsory.

(c) *Field work including office visits, teachers' and trustees' meetings, school visitation, etc.*

In many states in which county and district superintendents are elected either by popular vote or by trustees and county boards there are several weeks between the day of election and the time at which superintendents take office. If it can be arranged to hold a six weeks' course for newly elected superintendents between these two dates many mistakes so common to new superintendents will be avoided and a unity of interests developed between the various county superintendents and between the county superintendents and the state department. I would suggest that the curriculum for this six weeks' term consist of the following intensive courses: County administration; supervision of rural schools; curriculum for rural schools; technique of teaching.

The first two courses, and perhaps, the third, can, in many states, best be given by members of the state department staff. The course in County Administration will naturally be based on the duties of the county superintendent and on the school laws of the state. In my own state the course may best include:

1. A survey of the duties of the county superintendent, with a genetic treatment as far as time will permit.
2. The county superintendent as an education leader, his relation to city superintendents, principals, teachers, district school boards, patrons, and children.
3. Office management including the selection and training of a clerk.
4. Certification laws and regulations.
5. Eighth grade examinations.
6. School finance including a genetic treatment of the source of school funds, apportionments, budgets, bonding and taxation under the county unit system.
7. School buildings and equipment.
8. Standardization of rural schools with both value and dangers pointed out.
9. Consolidation.
10. School district boundaries.
11. School elections.
12. School reports and the interpretation of these reports for the public.
13. Attendance laws and attendance campaigns.
14. Trustees' meetings.

The course in supervision of rural and village schools should make clear the difference between administration and supervision, the differing functions of supervision and inspecton, and should emphasize the greater importance of supervision. We all know that for most people it is easier to do the more mechanical duties that are always in the foreground and which, in the case of county superintendents are usually specified by law, than it is to do the less tangible lines of work that gradually build up an improvement of instruction. A study of the following topics, which might properly come in this course, is probably greatly needed by most county superintendents when entering office for the first time.

1. Division of duties between the county superintendent and the rural supervisor.
2. Fundamental principles involved in the supervision of village and rural schools.
3. Types of supervision including
   (a) Improvement of instruction through the use of textbooks, course of study, reference and supplementary material, combining and alternating classes in making daily and weekly programs, making assignments, using standard tests and measurements, training children how to study, evaluating, making and using seat work, formulating good questions, using the problem as an element in good teaching and planning opening exercises and special day programs.
   (b) School Management, including the management of janitor work, routine classroom details, keeping a record of attendance, seating pupils, caring for lighting, heating and ventilation, making reports, testing sight and hearing and planning and supervising recess and noon hours.

(4) Means of supervision.
   (a) Thru visitation which may include the planning of visits for a school year, month, week and day, what to look for in visiting schools, record blanks to use, demonstration teaching, technique and good taste in offering criticism, judging the value of work observed, and follow-up work.
   (b) Teachers' meetings or institutes, the study of which should result in building up principles and aims in planning programs so that county superintendents may be brought to see that every meeting must have a specific aim.
   (c) Office conferences, circular letters, outlines and reading circle work.

In connection with this course in supervision it would be very advantageous to have observation of a few recitations in a city school followed by detailed analysis of the lessons observed. How constructive criticism may be given the teacher and what follow-up work would be needed are subjects which may profitably be discussed. If it can be arranged to take two or three trips out to near-by country schools for the purpose of observation that should be done.

The content of the course in rural-school curriculum would depend largely upon the personnel and experience of the county superintendents represented. If the majority in the group are men the emphasis may be placed largely on primary and intermediate curricula and methods. If most of the county superintendents have recently come from the ranks of elementary teachers the work may best be distributed throughout the eight grades with possibly more emphasis on beginning reading than on any other phase. Time may profitably be taken to weave in a little psychology,—the laws of learning, habit formation, individual differences, and the modifications in the traditional curriculum that are necessary to harmonize with these laws of psychology. If the state does not have a separate course of study for rural schools, the adaptation of the elementary course to fit a school of many grades should be given.

In choosing the technique of teaching as a fourth course of this school for county superintendents I have tried to select a subject that would suggest a closer relation to actual practices than is usually found in similar courses in general method or principles of teaching. Occasional observation in connection with the course will help to keep the feet of both instructor and county superintendents close to earth.

In states in which it is customary to elect county superintendents from the cities and large towns a course in country-life problems may be even more needed than a course in the technique of teaching.

A specific course for the training of rural supervisors is needed in most states as much as a course for training county superintendents. This should be given during the summer term at one of the state institutions by members of the state department staff and other specialists in elementary supervision and country life problems. Courses should differ somewhat from those given in the school for county superintendents. In most states rural supervisors who are appointed will usually be superior elementary teachers. They may need less of the technique of teaching but more of the study of rural-life problems than do county superintendents. They will need less school administration than county superintendents but they should be given a general survey of the public school systems of the country. The following courses are suggested for the first summer term for rural school supervisors: Supervision of rural and village schools; country-life problems; rural-school curriculum; public-school systems.

It has become customary in a few states to hold annual short courses or general conferences of about two weeks for both county superintendents and rural supervisors. In planning the program an effort should be made to make this a school with a sequence of work running throughout the session, to reduce the number of individual lectures and the number of speakers to a minimum and to exclude from the program all propagandists either of a commercial or public welfare nature. By so doing, this short course will be one of a strictly professional nature. The best specialists in rural supervision in the entire country should be called on to give courses that will contribute definitely in planning the highest type of teachers' meetings, in demonstrating teaching and discussing lessons and in using educational tests and measurements in rural schools. Courses in the use and interpretation of educational statistics and in educational publicity should also be given by specialists. Members of the state department staff are usually best equipped to give the courses in the immediate problems of administration.

All of these courses advocated would be of little value if the work were not followed up through frequent circular letters and outlines and especially through group conferences and through visits to county superintendents. Probably the most important part of the work of state rural supervisors is the field work, and the most important part of the field work is the close contact with the actual problems which county superintendents and their assistants have to meet daily. For a state supervisor to be able to go into the poorest rural schools with the county superintendent or rural supervisor and help teachers to reorganize their programs, demonstrate how to give a history assignment, or show how beginners may be taught to read real stories is not only an inspiration to teachers but is the most practical assistance in developing supervisors out of county superintendents and their assistants. If one thing must be neglected let it be the *inspection* side and the *exhibition* element. Though standardization of schools has done much good, it should *never* be given precedence over supervision.

Next to visiting schools with county superintendents and their assistants probably the greatest constructive aid that a state supervisor can give is in helping to plan institutes and group teachers' meetings. In order to accomplish the most by these meetings county superintendents and their assistants need *training in planning programs with few and definite aims,* in utilizing the best talents of their teachers, in gradually giving responsibility for the plans to the teachers of the group, in planning demonstration lessons, in discussing such lessons in detail to bring out educational principles, in organizing supervision to center around teachers' meetings and in following up the work given at teachers' meetings through circular letters, outlines and visits. A few county superintendents plan to emphasize one or two points each year, such as *teaching beginners to read* and *teaching silent reading in the middle and upper grades.* A group teachers' meeting is held, the program of which centers around those two phases of reading. During the next six or eight weeks county superintendents and the rural supervisors devote most of their time to visiting the teachers who attended the group teachers' meeting. On those visits a variety of work may be observed but each teacher is expected to conduct reading classes to show what progress has been made in carrying out the plans adopted by the group at the last meeting and to show wherein the teacher needs further help from the supervisor. A demonstration lesson to bring out these points usually follows. After the rounds have been made with the first group, a second meeting is held with a new group. This plan has worked wonderfully well under typical conditions, especially in developing a high morale and a professional attitude among teachers, and in encouraging county superintendents to have a systematic plan of supervision and in stimulating in them an experimental attitude toward their work.

The law of individual differences works among county superintendents as well as in other groups. Like other groups they will give their best, not as a result of the attempt to standardize their practices but as a result of observing their differences and capitalizing their strengths. State supervisors may well encourage a differentiation of work in different counties. One county may best be served by the county superintendent's emphasis on Americanization work among the foreign population of rural districts, another by a co-operative effort of county superintendents and teachers in enriching the course of study or in developing a new curriculum, and another by the education of patrons to the needs and importance of the school. *The only things which state supervisors have a right to standardize are the principles of supervision and administration.*

In all lines of training three specific aims should be kept in mind:

1. That the schools are for the children and all training of county superintendents and rural supervisors should tend directly toward giving rural children better school advantages.

2. That the training should whenever possible differentiate between the administrative duties of county superintendents and supervisory duties of rural supervisors.

3. That the best training in the long run will be a democratic

type and that the relation between state and county school officers should be similar to the relation that should exist between county school officers and teachers and between teachers and pupils.

These aims can best be realized not by indoctrinating those to be trained but by applying Dewey's philosophy of development which he sums up by saying: "The end of growth is more growth."

INTERPRETING ACHIEVEMENT IN SCHOOL IN TERMS OF INTELLIGENCE

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Many teachers during the early period of the testing movement felt that there was an injustice in having their efficiency judged solely on results obtained through an educational test. "My class is an unusually stupid one," they would say. Whereupon the supervisor with an incredulous smile and a shrug would point to a table showing the class achievement in the Courtis test in arithmetic and say: "These scores are based on an objective test, your opinion of the mental capacity of the class is not." The teacher would meekly subside and accept the pronouncement with confidence in her judgment shaken. The development and use of intelligence tests provide a means for overcoming this difficulty. Their use indicates that the teachers must frequently have been right in their resentment. At least three important sources of error in interpreting the results of teaching in a given class in terms of educational tests alone can be shown.

In the first place, intelligence tests have shown that, in a given school system, the mental level of a whole class or school may be affected by the social or racial origin of the pupils. Terman and his co-workers in their work with the Stanford-Binet Tests have convincingly shown that intelligence is affected by social status and race. Proctor has shown similar results by means of group tests. The writer in an article to another journal[1] found significant differences in the intelligence of high school students belonging to different social groups. Since the population in any fairly large city tends to separate itself according to social status, it is obvious that different mental levels will be found in the schools patronized by the different groups. This was shown in the investigation by the writer referred to above, for three high schools in a large city. In the second place, where it is the practice to divide the grade into three or more sections according to capacity, either on the basis of teachers' judgments or on the basis of tests, it is difficult to compare the efficiency of teaching by means of educational tests alone. The fact that these groups are recognized to be of different capacity would lead one to expect lower achievements from the inferior groups. But without intelligence tests, it is impossible to know whether each group has been brought to its normal level of efficiency. A third source of error in interpreting educational test results, apart from intelligence, arises from differences in policies of promotion in different schools. These differences result in differences in age-grade status of pupils. Where a liberal policy is used, there will be less retardation; the pupils will be younger; and the achievement will be lower. Where a strict policy is used, there will be more retardation; the pupils will be older and in the upper grades more select since the more incapable will have been forced out of school; and the school achievement will be higher.

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[1] Journal of Educational Research, January, 1921.

In order to interpret educational achievement in terms of intelligence, it is desirable to have age standards for educational tests as well as for intelligence tests. Having these, it is possible to obtain educational ages for each school subject. These in turn can be made to yield educational quotients analogous to intelligence quotients. The ratio of the educational quotient to the intelligence quotient will yield the achievement quotient. To illustrate this process: suppose a pupil has an intelligence quotient of .90, an educational quotient of .90 in arithmetic and of 1.00 in reading. Using the intelligence quotient as a divisor, we obtain an achievement quotient in arithmetic of 1.00 and in reading of 1.11. Such a method has been proposed by Franzen[3] for analyzing the achievements of pupils and has been used by Monroe and Buckingham in the "Illinois Examination" consisting of an intelligence test, a silent reading test, and a test for the operations in arithmetic. However, the standards of most educational tests are in terms of grade rather than in terms of age. This makes it impracticable to follow the method suggested above unless age standards can be obtained. This can be done in comparing achievements of different classes of the same grade in the following manner: The median intelligence score of a class divided by the standard score yields a quotient of 1.00 if the class is exactly up to the standard. Similarly, the median scores in reading, arithmetic, spelling, etc., divided by the standard scores, yield quotients of 1.00 if the class is exactly up to the standards in these subjects. All of this, however, is in terms of grade. To obtain an age basis, find the median age of the class and divide by the age which represents "at-age." For example, in a fifth grade whose median age is 11 years 6 months, the divisor would be 11 years. This would yield a quotient of 1.05. Now use this as a divisor of the quotients obtained above and we obtain an intelligence quotient of .95 for the class. Similarly for reading, spelling and arithmetic, we obtain educational quotients of .95. The achievement quotient (A. Q.) may now be obtained by dividing the educational quotients (E. Q.) by the intelligence quotient. In the above case the achievement quotients would thus be 1.00. This method was used by the writer in making educational surveys during the school year 1920-21. The method is illustrated in the following tables:

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[3] Teachers' College Record, November, 1920.

Table I. shows the median age for each of six fifth grade classes as well as medians in the following tests: Haggerty Intelligence Examination, Monroe Silent Reading Tests, Monroe Reasoning Tests in Arithmetic. Table II. shows the median age divided by the "at-age" for each class as well as the quotients obtained by dividing the class medians in each test by the standard scores for the fifth grade in these tests. Table III. shows the intelligence and educational quotients obtained as described above. Table IV. shows the achievement quotients for each class in reading and arithmetic.

TABLE I.

Showing Median Age and Median Scores in Intelligence, Reading and Arithmetic for Six Fifth Grade Classes.

Reading—Arithmetic

Class	Age	Intelligence	Rate	Comprehension	Principle	Answer
A	11-7	81	87	14	19	12
B	11-5	75	76	15	22	13
C	10-9	74	69	12	11	8
D	11-1	69	98	13	13	7
E	11-7	67	67	13	15	10
F	11-7	55	76	13	16	9.5
Stand.	11-0	78	89	19	17	9.7

TABLE II.

Showing Median Age Divided by the "At-Age" for the Grade and Median Scores Divided by the Standard Scores for the Grade.

Reading—Arithmetic

Class	Age	Intelligence	Rate	Comprehension	Principle	Answer
A	105	104	98	74	112	124
B	104	96	86	79	130	134
C	98	95	78	63	65	84
D	101	88	110	67	77	72
E	105	86	76	67	88	103
F	105	71	86	63	94	98

TABLE III.

Showing Intelligence Quotients and Educational Quotients for Each Class Reduced from a Grade to an Age Basis.

Reading—Arithmetic

Class	Intelligence	Rate	Comprehension	Principle	Answer
A	99	94	72	107	118
B	92	85	76	125	128
C	97	80	64	66	86
D	87	109	67	77	72
E	82	72	64	84	98
F	68	82	60	90	93

TABLE IV.

Showing Achievement Quotient for Each Class.

Reading—Arithmetic

Class	Rate	Comprehension	Principle	Answer
A	95	73	107	119
B	92	83	136	140
C	83	66	68	88
D	125	77	88	83
E	88	79	102	119
F	120	88	132	136

The advantage of interpreting school achievements by the method suggested above will be seen in studying the scores made by the different classes. Table I. shows that the point scores made by class F in intelligence and in reading and arithmetic are below standard. One cannot, however, tell from this table whether the achievement of the class is on a level with its capacity. In Table II. these scores are reduced to a percentage basis as described above as is also the age of the class. Table III. shows that the intelligence quotient for the class is below that of the other classes. The educational quotients are also low but compare more favorably with the other classes. Table IV. shows that the A. Q.'s (achievement quotients) for Class F, on the whole, are high. They are superior to those of Class A in spite of the fact that the intelligence quotient of Class A is the highest of any of the six classes. A supervisor armed with such facts would affect the morale of a teacher far differently than the supervisor in our first illustration. The teacher of a dull class is enabled to compete on equal terms with the teacher of a bright class. While this procedure is perhaps not as satisfactory in interpreting the achievement of individual pupils, the method is applicable. For example, in our illustrative tables, we need but consider the classes A, B, C, D, E, and F as individual pupils and proceed in exactly the same manner.

THE RESULTS OF THE ARMY ALPHA TEST IN A TEACHER-TRAINING INSTITUTION

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The Army Intelligence Test, Alpha, was given to 584 students taking courses in the department of psychology of the State Teachers' College, Cape Girardeau, Missouri, during the school years of 1919 and 1920. Of the 584 students who took the test, 448 were college freshmen, 103 sophomores, 19 juniors and 14 seniors. The median chronological age of the freshmen was 19, of the sophomores 22. The average age of the juniors was 24, of the seniors 25. The test used was Form 6 of the Alpha and the method of giving and scoring was the same as used in the army. In order to interpret the data secured and given in the following tables the ratings, scores and interpretations used by the government follows:

Rating	Score	Interpretation
A	135-212	Very Superior
B	105-134	Superior
C+	75-104	High Average
C	45- 74	Average
C—	25- 44	Low Average
D	15- 24	Inferior
D —	0- 14	Very Inferior

The distribution of the scores of the 584 students conforms very closely to the probability curve. The mode is 117, median 115.4, average 115.5, and the standard deviation 27.15.

Distribution of Scores.

Scores	No. cases	Scores	No. cases
40-44.99	1	120-124.99	31
45-49.99	2	125	30
50	1	130	35
55	5	135	30
60	9	140	29
65	8	145	25
70	16	150	15
75	16	155	14
80	20	160	9
85	36	165	12
90	25	170	3
95	24	175	4
100	34	180	3
105	46	185	0
110	45	190	1
115	55		

Results of the test by College years:

College Year	No. Cases	Mode	Median	Average	Deviation
1st	448	109	113.6	112.5	25.1
2nd	103	115	117.7	118.	26.6
3rd	19	115	128.5	131.7	25.
4th	14	115	132.5	127.9	25
Total	584	117	115.4	115.5	27.1

Percentage of each college year receiving the rating of A, B, C+, C, C—.

College Year	A	B	C+	C	C-
1st	25	42	25	.078	.002
2nd	28	42	24	.06	
3rd	37	45	16		
4th	50	21	21	.08	
Total	25	41	26	.078	.002

The Alpha test has been given in a number of Teacher Training institutions and the results were obtained for the purpose of making comparisons. The following gives the data:

Institutions	No. Cases	Median	Average
Teachers College, Cape Girardeau, Mo.	584	115.4	115.5
State Normal School, Bloomsburg, Pa.	138	113.2	113.19
Teachers College, Greeley, Colo.	266	121.9	122.5
State Normal School, St. Cloud, Minn.	384	134	136.9

The following gives the comparisons of the Freshmen and the Sophomores of several Institutions of learning:

	Freshmen		Sophomores	
Institutions	No. Cases	Median	No. Cases	Median
Teachers College, Cape Giardeau, Mo.	448	113.6	103	117.7
Teachers College, Greeley, Colo.	102	116.6	126	126.3
Ohio University, Columbus, Ohio	2,545	130	1,346	137
Dickinson University	72	141	61	156
University of Illinois	489	147	278	145
Southern Methodist University	128	127	79	114

The median score for the men tested in the Teachers' College, Cape Girardeau, Mo., was 113 and that of the women 112. This does not agree with many of the institutions where students have been tested. In these there is a marked sex difference.

One further comparison can be made. Taking the freshmen of Cape Girardeau and comparing them with the freshmen of the University of Illinois and it is found that only nine per cent. of the freshmen of the Teachers' College reach or exceed the median score of the University freshmen.

A further study was made of the correlation of the term grade made in psychology with the score made in the Alpha test. Using the Pearson formula there is a correlation of .39.

THE FUNCTION OF THE CITY TEACHERS COLLEGE

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In many of our large cities we find a teacher-training institution which is part of the educational system of the city. Originally the city training school was planned for the purpose of training teachers who were to be put on the teaching force when the supply from outside communities failed. It was also felt that it would be possible to give a training more suited to local conditions in a local institution than would be possible in a more general institution. In some cities we find that the entire number of new teachers needed each year are taken directly from the teachers local institution. In others we find that a very small proportion are taken. For example, in Detroit it is found that less than half of the new teachers are products of Detroit Teachers' College.

One of the big dangers that has been spoken of with regard to local training institutions is the fact that there is too much inbreeding. There is no doubt that new blood is necessary, and it is clear that provision should be made by cities to secure a fair proportion of their new teachers from outside training institutions.

Another phase of the activity of the teachers college which is coming more and more to the front is the training of teachers in service. Ordinarily there are in the cities very few opportunities for the study of technical problems in education. Teachers who have had the two years' training accept positions and then ordinarily further their training by attending summer session at great expense to themselves, or by taking university extension work which generally is not related to the problems of the schools. In this period of rapid change in educational affairs and the discovery of new methods and problems of instruction, it is very important that the teachers of a given city have opportunity to study such methods and problems at first hand.

Detroit Teachers' College has made an effort to meet this problem and is doing so by offering through the medium of its faculty and the administrative forces of the city extension work during afternoon, evening and Saturday sessions. A study of the attendance in the extension work of Detroit Teachers' College shows the following facts:

TABLE I.

Table I. shows the attendance classified according to the type of school or activity to which those attending are attached:

	No. in schools	Attending N. S.	Percent
Principals			
Elementary Principals	116	69	60
Assistant Principals and 1st Assistants	...	59	..
Intermediate Principals	4	4	100
High-School Principals	10	2	20
Teachers			
Elementary	2,567	1,349	52
Intermediate	139	47	34
High School	792	124	16
Supervisors and Assistants	46	28	63
Adminstrators	14	..	..
Miscellaneous	289	289	..
Students at Teachers College	..	70	..
Total	3,977	2,041	

This table shows a total attendance of 2041. There are 69 elementary school principals attending classes, or 60 per cent. of all elementary school principals in the city. All intermediate and 20 per cent. of the high school principals were enrolled for work.

Thirteen hundred forty-nine, or 52 per cent. of all elementary, 47 or 34 per cent. of all intermediate, and 124 or 16 per cent. of all high-school teachers are enrolled. This table shows that a majority of all elementary teachers are taking advantage of the opportunity offered them to further their training, while only a very small part of the faculties of the high schools are doing so. This may be due to the fact that Teachers' College is not offering a sufficient number of courses to interest high-school teachers. They are probably more interested in technical courses in their own particular line, and are not taking advantage of the general professional courses that are offered. Incidentally it should be observed that it is in the elementary schools of the city that most of the educational progress is being made. It is obvious that the intermediate school itself offers a wide opportunity for study and experimentation and that such opportunities are even more numerous in the high school.

A good proportion of the supervisory staff of the city is taking up the work. The fine spirit of the administrative and supervisory staff toward further training is to be noted as very encouraging and indicative of the spirit of progress in the city.

A study of the percentage of the faculties of each school who are attending evening classes was made to discover the relation between the size of the faculties and the per cent. of teachers who were attending classes, and the possible influence of the attitude of the principal toward attendance.

Table II. shows the relation between the size of the faculties in the elementary school and the percentage of teachers taking extra work in the evening classes.

TABLE II.

% of Att.	*Fewer than* 10	*No. of Teachers per school.* 10	20	30	40	50	Total
100	1	..	..	..	..	..	1
90	..	2	3	..	..	..	5
80	2	3	2	1	1	..	9
70	..	5	4	2	3	..	14
60	1	5	8	1	3	1	19
50	5	8	15	5	..	1	35
40	1	5	7	2	1	..	16
30	3	7	5	3	..	..	18
20	1	3	1	2	1	..	8
10	5	2	1	..	..	..	8
0	5	..	..	..	..	..	5
Total	24	40	47	16	9	2	138
Median	33	54	57	52	70	60	54

This table shows that the per cent. of teachers attending classes from the various schools varies from 0 to 100, with a median attendance of 54 per cent. of the faculty. For a detailed statement showing the actual percents by individual schools see Appendix I. There is no definite relationship between the size of the school and per cent. attending evening school classes. It is worth noting that the schools with fewer than ten teachers have the smallest percentage attending evening school classes, while the opposite is true with schools with the larger numbers of teachers.

A comparison of the proportion of the teachers whose principals are also attending with those whose principals are not attending shows the following results:

TABLE III.

Per cent of Attendance	**Principals attending**	**Principals not attending**	**Total**
100	..	1	1
90	3	2	5
80	5	4	9
70	11	3	14
60	12	7	19
50	19	16	35
40	7	9	16
30	8	10	18
20	3	5	8
10	1	7	8
0	..	5	5
Total	69	69	138
Median	58	49	54

TABLE IV.

Name of Course	Enrollment
Physical education	172
Americanization	227
Primary methods	131
Modern novel	63
Platoon	82
Educational philosophy	58
Tests in imp. inst	86
Handwork	114
Geography	90
Survey of industrial life	46
Hygiene	37
Arithmetic	67
Glee club	31
Penmanship	138
Music	42
History	33
Scientific literature	53
Educational sociology	38
Intermediate school	53
Public speaking	22
Mental deficiency	40
Manual training	60
Design, needlecraft	96
Educational psychology	18
Nature study	15
Music appreciation	29
Normal training	21
Speech	23
School administration	30
Tests and measurements	23
H. S. sub. tests, measurements	32
Saving and spending	21
Educatoinal dramatics	23
Construction design	19
English composition	15
Kindergarten tests and measurements	31
Household arts	18
Children's literature	20
Elementary construction	17
Auditorium	15
French	26
Applied design	7
Blindness, its causes	14
Blackboard sketching	14
History of education	14
Experimental education	25
Statistical graphics	10
School libraries	20
Visual education	4
Binet testing	14
	2,325
Percent attendance	84%

It does not follow from the fact that a principal of a building is attending evening school classes that his teachers will attend. The table shows, however, that 58 per cent. of the teachers whose principals are taking extra work attend evening classes themselves, whereas only 49 per cent. of the teachers attend whose principals do not take extra work. Apparently the principal is here a stimulus to his teachers. An interesting study could be made of the efficiency rating of the principals and the proportion of their teachers who are taking extra work.

It may be interesting to note the type of work that is being offered and the popularity of each particular course. Table IV. gives the courses and the number of people who were enrolled in each course at the end of the first ten weeks of the evening session.

The attendance in the regular evening-school work in high schools and elementary schools is about 65 per cent. of the enrollment. Table V. shows that the attendance in the evening session of Detroit Teachers' College has held up remarkably well.

TABLE V.

COMPARISON OF WEEKLY ATTENDANCE, EVENING SCHOOL SESSIONS

Detroit Teachers College

1st wk.	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th
100	97	78	71	78	81	81	80	81	82	80	81	81	81
Detroit High Schools													
82	80	75	72	67	62	55	52	52	50	47	48	47	46

It is clear from the figures on attendance that the work in Teachers' College is much more vital for the student who elects it than is the work that is being offered in the high schools.

In conclusion it may be suggested that there are certain other tendencies in the work of the Teachers' College which are becoming more and more apparent, namely experimentation and research. A teachers' college which is functioning properly should have connected with it experimental schools where the experts of the faculty may attempt to solve the various problems that arise in the school system and where solutions may be experimentally tried before they are put into force throughout the whole city by executive action. It has been found to be very helpful to have the problems worked out under careful conditions in one or two schools and on the basis of this work a suggested procedure outlined for use in other schools of the city.

It is also possible in these schools to make detailed studies of such problems as the use of the teacher's time. In the large cities there are many records to be kept and it is a common complaint that teachers spend a very great proportion of their time upon record keeping. Granting the importance of child accounting it is admitted that the teacher's time should not be devoted too much to this one phase of her activity. By approaching this problem scientifically in the experimental schools it is possible to determine what proportion of time a teacher ought to give to clerical work and also to suggest a scheme which has been found to yield the best results from the point of view of economy, both of time and of effort.

A teacher's college should be the fountain head for material on the curriculum and methods of teaching and should feed into the system steadily material that has been worked out under its supervision. This can be done both by training its own students in these methods and by publishing through various bulletins the results of investigations that have been made. There should be very close correlation between the supervisory force of the city and the faculty of a teacher-training institution. It is highly desirable that the supervisors have very close relations with the instructors who are handling their particular subjects.

A teachers college should also be a clearing house for materials that are being worked out in various parts of the city and should attempt to bring together the best methods and projects that have been worked out by the various members of the educational force.

THE DEMANDS OF DEMOCRACY UPON SCHOOL SUPERVISION.

EDITH M. BADER

The status of supervision in the entire educational scheme is somewhat uncertain at the present time. There are many unsettled questions concerning its chief function and its technique. It is not the purpose of this discussion to attempt a specific solution for these, but to present a democratic point of view from which the entire subject may be discussed. The term supervision, in a very general sense, refers to all agencies and forces within the school which have to do with the improvement of instruction, and the terms supervisor may refer to any officer within the system,—superintendent, principal, or specially delegated supervisor,—whose business it is to further the process.

Democracy is not merely a form of organization or governmental machinery, but is essentially a form of associative living in which there is a large degree of community of interests and shared responsibilities, a maximal degree of respect for personality, and an optinal opportunity for self-realization. When the problem of supervision is viewed from this angle, two questions present themselves for discussion: (1) "What form of administrative machinery or organization is necessary in order that the process of supervision may be carried on in the most democratic fashion?" and (2) "What does democracy demand of the methods of supervision?"

In the attempt to answer the first question, three outstanding problems need adjustment. The first of these is teacher-participation in administration. The key note of successful administration should be coöperation of teachers and administrators both in the formation of plans and policies, and in their execution. Democracy demands that teachers have a voice in determining the conditions under which they work, the standards by which their work is judged, and, within certain limitations, what that work should be. This is necessary, first, because their participation in the formation of plans and policies must precede their intelligent acceptance and whole-hearted execution of these plans and policies; secondly, because by mobilizing all of the resources of the teaching staff it will be possible to work out larger programs for education than any one person could make; and, thirdly, because greater growth of individual teachers is thereby promoted.

This participation may be secured through teachers' councils which should be representative in type and which should deal with all problems which concern the professional standing of teachers and the creation of wholesome conditions of work. It should not be granted as a favor from above, nor should it be used by teachers as a weapon for obtaining their rights, but it should be assumed by them as a sharing of the responsibilities for accomplishing the objects of education in a democracy.

The demand, which comes from some quarters, that teachers select the superintendent is undemocratic because the superintendent's relation is to the community as a whole and not to the teachers as a group. The extension of the franchise makes it possible for teachers to exercise the same power as other citizens in determining school law and school officers. Teachers are responsible, through organization and individual effort, for using all legitimate means in a democracy for enlightening and shaping public opinion. The same principles apply to the demand that teachers be represented on boards of education. They should be represented, but not as a class whose interests are not identical with the community as a whole.

A second problem of administration which influences the efficiency of supervision is that of teacher-rating, promotion, and salary-determination. Democracy demands that salaries and promotions should be determined upon the basis of merit rather than upon tenure of office or upon the mere whim or caprice of administrators. Such a system is fraught with many difficulties and will necessitate accurate, objective measurement of teaching ability and teaching achievement, and accurate analyses of objectives and processes within each field of teaching. The use of standard educational tests for measuring teaching efficiency is a movement in the right direction, although as yet inadequate because all subjects cannot at present be measured by such tests nor can all values in any one subject be measured. The use of score cards which attempt to analyze teaching efficiency specifically is another movement in the right direction because it, too, is an attempt to secure a standardized, objective basis of judgment. The movement toward the establishment of teachers rating boards elected by teachers themselves is one which deserves attention because it is more democratic than the present practice in which judgment of teaching efficiency is left to the personal opinion of one or two persons, and because it will professionalize the business of teaching by leading teachers themselves to set standards for their own progress.

A third administrative problem which must be solved before supervision may reach its maximum of effectiveness is the proper organization of all supervisory forces within the system. The supervisory staff should be so organized as to make unity of purpose in the system possible, and at the same time give opportunity for individual initiative and expert service in fields where it is needed. This would necessitate a decrease in the number of special subject-matter supervisors, and the development of a greater measure of coöperation among departmental supervisors where they exist.

The supervisory staff should be made up of the superintendent, experts in the various departments, and advisory committees of principals and teachers. Its business should be to set standards and formulate policies and programs for improvement of subject-matter, methods, and mechanics of instruction. The plan of supervision to be commended is, perhaps, that of the building or district principal, who is directly responsible for providing proper machinery of administration and agencies of supervision within his own building, but who looks upon general supervisors as experts who may be used to advise and aid in carrying out educational policies.

The superintendent and all special supervisors should be chosen because of special fitness, and should be experts in their respective fields who may furnish true educational leadership. They should be chosen without respect to place of residence, and should be continued in service as long as their work proves efficient. They should be allowed the greatest freedom possible as to methods and organization of work within their several fields.

The second question referred to at the beginning of this discussion is, "What does democracy demand of the methods and technique of supervision?"

The great demand of society upon education today is that the educative process, as it is carried on within the school room, be socialized. This demand for democratic methods of instruction cannot be carried on in an autocratic atmosphere of supervision. Therefore the methods of supervision as well as the machinery of supervision need to be democratized. In the last analysis, as one writer has said, the function of the supervisor is to exercise a leadership which rests upon superior ability, and not upon the dominating influences which his official position confers. His chief concern in fulfilling this function should be to secure a community of aims and purposes and coöperation of effort on the part of those whom he would lead.

This demands of him, first, that plans for the improvement of classroom technique, standards for judging results, and methods of meeting difficulties, be made a matter of group concern and not merely a matter of adjustment between individual teachers and supervisors. Courses of study and choice of textbooks should be made through the coöperative efforts of teachers and supervisors. Teachers should be encouraged to take the experimental attitude toward problems of method and schoolroom technique, and in no case should these be imposed arbitrarily by the supervisor. Problems which offer difficulties to all, such as retardation, classification, and the like, should be studied by committees of teachers working in coöperation with the supervisors. Teachers' meetings should not be viewed merely as matters of routine, but should grow out of the needs and problems of the teachers and should be used as one means toward solving those problems. These meetings should be organized and conducted largely by the teachers with their own elected officers and with programs determined by them.

The second demand that democratic supervision makes is that the resources and capacities of all be capitalized and placed at the disposal of each individual teacher. Supervisors should discover teachers of superior ability and utilize them as leaders in educational experimentation and investigation. Each teacher should be allowed to work in a position in which his special aptitudes will bring the greatest returns to the pupils, the community, other teachers, and himself. Plans for intervisitation, demonstration lessons, and conferences should be made and carried out. The supervisor should bring to his teachers the most expert and up-to-date information as to educational principles and procedure.

In the third place, individual differences in teachers should be recognized by supervisors. Teachers should be allowed freedom in the choice of method, and within certain limitations freedom in choice of subject-matter. The peculiar needs of each teacher should be studied and supervision adapted to those needs. The personality and intelligence of teachers should be recognized. Visits to teachers should be made in the spirit of friendly helpfulness and not in the spirit of captious criticism. Visits should be extended, frequent and carefully planned, the work seen should be intelligently analyzed, after which criticisms and suggestions should be given in personal interviews.

In the fourth place, the supervisor should capitalize the professional information and intelligence which the teachers in the system have, and utilize it in two directions—first, in raising educational ideals in the community, and secondly, in contributing to and raising professional standards. The former will necessitate active participation in community activities and the utilizing of community activities to enrich the life of the school. The latter will mean close touch with advanced ideas of education as they are worked out in professional schools, and with national and international movements toward the improvement of education, and the contributions of worthwhile findings and experiments to the content of educational literature.

In general, democracy demands that the supervisor's relation to the teachers be the same as the relation of teacher to pupil, and that his function should be the same as that of the teacher, namely, to provide for "purposeful activity in a socialized environment." The ultimate test of supervision, therefore, is the degree to which it makes for desirable changes in teachers and through them for desirable changes in the pupils. Supervisory methods and administrative machinery are good only in so far as they give opportunity to all of the influences in the group to contribute to the growth of all the pupils and teachers whom they affect.

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

Including Teacher Training

THE GAP BETWEEN LESSON PLAN AND STUDENT-TEACHER PERFORMANCE IN STATE NORMAL SCHOOL PRACTICE TEACHING

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A measure of the efficiency of student teaching is pertinent in the light of the difficulty which many of our teacher-training institutions are having to provide adequate laboratories for their student teachers. In one locality where the privilege to use the local schools for student teaching purposes has recently been denied, the attitude of the parents of the public school children is said to have been epitomized in the remark: "My children are entitled to have as good teachers as my neighbor's children. They don't have to be taught by those normal girls."

Just how good is the teaching which is done by state normal school students? W. S. Gray[1] has compared the average record for the first semester in high school of pupils who have come from the elementary schools of public school systems with like records of those coming from intramural normal elementary schools and the elementary school of the University of Chicago. He finds performance on practically the same level in both cases.

The following brief study is a description of a cross section of student-teaching in a fifth-grade geography class in the elementary practice school of one of the middle western state normal schools. The objective material used consists of (1) an observation report, (2) a lesson plan, (3) a stenographic report of the lesson as taught, (4) an information test, and (5) a test with a standardized geography scale. The first three items are given below as Exhibits 1, 2, and 3.

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[1] W. S. Gray: "The Results of Practice Teaching on the Pupils Taught in Practice Teaching for Teachers in Secondary Schools," *Bulletin* U. S. Bur. Ed., 1917, No. 29.

EXHIBIT 1—OBSERVATION REPORT

January 5, 1920 2.30 *P.M.* *Grade V* *Mary Doe, Student*

I. Subject Matter
  1. General Topic—Geography
  2. Specific Unit—Cotton raising

II. Aims of the Exercise
  1. To make this a concrete problem-project by getting an adequate expression of the results of committee work on the problem, "What can we find out about the cotton gin?"

III. Aids in Teaching
  1. Stereographs and pictures

IV. Description of the Lesson as Taught

At the beginning of the period, the teacher seated at the desk says—

TEACHER—Children, who will state again the problem we have been considering the last two days?

A number of pupils stand at their seats.

TEACHER—Mary, you may.

The other pupils sit.

MARY—We are trying to find answers to the question, "Why do the southern states raise so much cotton?"

TEACHER—Yes. The class secretary may name the committee report for today.

SECRETARY—(Before the class) John and James are to report on the topic, "All we can find out about the cotton gin?"

TEACHER—All right. The committee may report.

John steps to the front. He speaks from notes a part of the time and reads excerpts from reference books and texts. At one point in his report, a boy stands beside his desk.

JOHN—What is it Charley?

CHARLEY—I did not understand that. Did you say that, etc..................

John explains this point and finishes his report, which has occupied about fifteen minutes. As he finishes, he remains before the class. At once, a number of boys and girls rise.

JOHN—(Turning to one of the girls) Elizabeth.

ELIZABETH—I know something interesting about the way the first gin that was made affected the business of the southern planters, etc.

When she finishes, John calls on the other girls standing and then on the boys. Each stands at his seat and adds to the discussion by courteous criticism, commendatory or constructive, by added detail, omitted points, etc. Finally, John is seated and the other member of the committee, James, comes to the front.

JAMES—I have brought three sets of stereographs and some pictures from the National Geographic Magazine which are about the cotton gin. I will start some of them in each row. Please pass them back as you finish looking at them and reading the explanations. The pictures give the history of the development of the cotton gin from its first crude form to its present form. The stereographs show the gin in use at the present time in the south.

John stands before the class while these pictures are being examined. A number of pupils stand at different times and, upon being addressed by him, come to ask questions about the pictures. The teacher helps in the explanations at times upon request from James. Finally, all are examined, and James is seated.

TEACHER—These reports have been very interesting to me, and I am sure we have learned quite a little about the cotton gin from them. Let us think for a moment of something else that is raised in the south besides cotton.

Nearly all of the pupils stand at their seats and among other products sugar, rice, and tobacco are named. After some discussion about sugar, the problem which seems to stand out in the minds of the pupils above all others is, "Why does the south raise cane sugar instead of beet sugar?" The teacher has divided this problem into several topics. These are assigned to committees, and the topics, the members of the committees, and the time each is to report are recorded by the class secretary.

TEACHER—Now, we have a few minutes of the period left. Let each of us go ahead on any work in geography which is most important at this time.

She then sits at her desk and consults with pupils who need help, or at times moves about the room supervising the methods of study of others. A committee asks permission to go to another room for a book they need. Another committee arranges to go to the Carnegie Library after school to hunt for material on their topic. One committee is working at the table in the back of the room organizing the topic and dividing responsibility for different parts of the report. Others are sitting quietly reading or making notes.

EXHIBIT 2—LESSON PLAN

February 24, 1920 11.40–12.00 *Grade V*

I. Subject Matter
  1. General, Geography
  2. Specific, The province of Alberta, Canada

II. Aims
  1. To arouse interest in Canada
  2. To learn in what ways Canada is similar to the United States
  3. To find out in what ways Alberta is important
  4. To be able to locate the most important places
  5. To express thoughts orally

III. Materials
  1. Map of Canada
  2. Pictures of Alberta
  3. Dodge, Book Three, Principles of Geography and North America
  4. Calder, Canada, a Descriptive Atlas
  5. Tarr and McMurray, North America
  6. Carpenter, North America
  7. Pupil reports of industries in Alberta

IV. Procedure
  1. Introduction—I will begin by saying, "For today, we have each of us taken trips to Alberta in order to find out about the industry assigned to us, and we are going to talk about what we have seen."

2. Development—

Subject-Matter	*Method*
The pupils have their oral reports ready to give.	Have one pupil go to the map, point out Alberta, tell the class about the mountains, etc.
	Have oral reports given which have been assigned to each pupil. Give each pupil one minute to speak.
Southern Alberta	After the report ask questions, if necessary to make the thought clear.
Central Alberta	Same method
Northern Alberta	Same method
The mountain area	Have the pictures which are ready to show after the oral report is completed.
Drainage	Have the pupil who is reporting point out the rivers and lakes as he speaks of them.
Climate	Suggest to the pupil after he is through speaking that he continue and compare the climate of Alberta with that of Minnesota. Why should you like to live there? Why not?
Agriculture	Suggest that the report include a comparison of the farming of Alberta with that of other provinces.
Mining	Ask this question after the report, "Why do people go to Alberta to mine?"
Lumbering	Add a brief statement about the forests and how they are preserved.
Fishing	Suggest this topic, "Would you go to Alberta to engage in fishing, or isn't it profitable?"
Fur trading	Help the report by telling about the people who are engaged in this industry.
Manufacturing	Why is this profitable in Alberta?
Transportation	Why do you like their system? Why not?
Cities	Why are the cities located where they are?
	Have pupils ask questions about any topic here.

V—*Assignment*—British Columbia

EXHIBIT 3—STENOGRAPHIC REPORT OF THE GEOGRAPHY LESSON AS IT WAS ACTUALLY TAUGHT ON THE DAY AFTER IT WAS PLANNED

February 24, 1920 11.40–12.00 *Grade V*

In addition to the materials noted in the lesson plan above, the student teacher had on the front blackboard in outline form a list of the fifteen topics which had been assigned for report with the name of a child after each topic.

TEACHER—Fifth grade, ready for geography. You will take the sixth grade seats. I think we like a change once in a while. First row may pass. Today, we are going to study about what part of Canada, Eunice?

EUNICE—Alberta.

TEACHER—What is Alberta, George?

George—Alberta is on the south of Canada.

Teacher—Was that answering my question?

George—Alberta is a province of Canada.

Teacher—Milton, you may go to the map and point out the boundary of Alberta. Class attention this way, please.

Milton—Alberta is bounded on the north by the Northwestern territories, on the east by Saskatchewan, on the west by British Columbia, on the south by the United States. Part of the Rocky mountains extends into Alberta.

Teacher—What part of Alberta?

Milton—Western part.

Teacher—Harold, you may tell us about southern Alberta.

Harold—Southern Alberta has light rainfall. They have a lot of grazing and cattle raising. The mountains are on the southwestern side of Alberta.

Teacher—There is a plateau or highland in Alberta. Can you tell us the name?

Harold—The Cordilleran plateau.

Teacher—What can you tell us about central Alberta?

Pupil—Central Alberta has good soil.

Teacher—Just a minute. Some of us are not paying attention. I do not want any writing this period.

Pupil—It has quite a bit of lumbering. The most important trees are the poplar and spruce. They have wheat, oats, and barley.

Teacher—Is that all you can tell us? Then it is the agricultural part of Alberta, and the southern part is the grazing area. Donald, what can you tell us about the northern part?

Donald—In the northern part, they have very much lumber, and they cut Douglas fir and poplar. They do quite a lot of fishing, and they have immense lakes where they catch white pickerel and trout. They have fur trading. The animals are lynx, otter, ermine, fox, and wolf. They hunt snipes, prairie chickens, and partridges. Edmonton is the largest city in Alberta. They have a university here and other schools.

Teacher—Why do we like this report?

Pupil—Because he told everything. He didn't say only one thing like Harold.

Teacher—And his report was interesting. Now we know something about northern Alberta.

Pupil—On the map, it doesn't show any lakes, and he said there are immense lakes.

Donald rises and names three or four lakes. The teacher holds up a map of Alberta on a larger scale on which lakes can be seen.

Teacher—We will have to hurry with our reports. The mountain area, Elisabeth.

Elizabeth—I don't know what the mountain area means.

Teacher—You mean you came to class without finding out! Where are the mountains in Alberta?

Elizabeth answers rather vaguely. Stephan reports next on the rivers and lakes. He merely names the principal ones.

Teacher—The climate of Alberta, Josephine.

Josephine—They have about the same kind of summers as we have. In winter they have about the same as Saskatchewan. Summers are not very warm, but healthy. They have blizzards.

TEACHER—Does everyone agree with Josephine?

PUPIL—I don't. She said it was pleasant in the winter. It is just the opposite. They have quite severe winters.

TEACHER—They have colder winters than we have here. I do not think it is so comfortable here. The agriculture, Virginia.

VIRGINIA—The agriculture is about the most important industry. They raise wheat, flax, rye, and oats. They raise a lot of horses. That is about all.

TEACHER—Is mining important, John?

JOHN—Mining is quite important. The nickel is quite important and the gold and silver. They have bituminous coal mines. Mining coal takes the value of $10,000. It is quite important. Nickel, copper, gold, silver, and coal. Mining all over Canada is $190,000,000, and the value of nickel is $45,000,000. The value of gold and silver is $33,000,000.

TEACHER—That was a very good report. Didn't you find they had asbestos? Gold is $10,000,000. You said $10,000. That makes quite a difference. Where do we find lumbering, Virginia?

VIRGINIA—I didn't find anything in the book.

Virginia then names spruce and pine, and states that they grow mostly in the northern part.

TEACHER—Tell us about the fishing, Kathryn.

KATHRYN—The lakes and rivers are so large that they have a great deal of fishing. Pike, trout, mackerel, and white fish are the most important.

TEACHER—Fur trading, George.

GEORGE—I didn't find much about it, but fur trading in Alberta is important. There are quite a few people connected with it. There are a lot of different fur bearing animals—mink, marten, badger, squirrel, bear, and fox.

TEACHER—If a man wanted to make money, I think the northern part of Alberta would be a good place, don't you?

PUPIL—Aren't there Indians in Alberta? I think they could trade with the Indians.

TEACHER—I suppose they do, even now. We will have to finish our reports tomorrow.

The viewpoint of this discussion is that the teaching behavior of the student-teacher is based upon a theoretical attitude expressed in the form of a lesson plan. A brief study is made of the origin of a theory and of the processes involved in its formation as a basis for future practice. All items of past experience determine what will be done at any time. Before action, however, the total experience is subjected to analysis and summary. This summary takes the form of language and becomes theory. Theory determines activity.

Experience which leads to a theory for geography-teaching consists of information about class processes and about content of subject matter. The latter comes from the general knowledge of the student, from reading, from conferences, and from other sources. Information about class procedure is the result of experience as a member of former normal-school, high-school, and elementary-school classes, and from other sources. That is, all experience is either real or vicarious, and all adds to the mental content and set which determine personal activity.

Out of the mass of experience, items are selected which have to do with the activity proposed, namely, teaching a geography class. This first takes most definite form in the observation reports of geography exercises visited. Exhibit I is illustrative of these geography observation reports.

That geography experience which relates itself to the group of children to be met and to the unit of subject-matter to be used is summarized in language form as a specific lesson plan, such as Exhibit 2. This is a complete statement of theory for procedure. It rests upon all items of previous experience and looks forward to specific doing.

One test of the degree of skill attained in this doing, the act of teaching, is in what happens when the lesson is actually being taught. This is set forth in the stenographic report of the geography exercise, Exhibit 3.

An analysis of this report will constitute the first attempt to determine how closely practice fits theory. This will take the form of a brief answer to the question, How nearly did the lesson as taught realize the aims stated in the plan?

Real interest is based upon previous knowledge. So far as the stenographic report is concerned, then, the first two aims as stated should be considered together. Only to the extent that what is found in the study of Alberta is related to similar geographic facts of which children have personal knowledge will real interest be aroused in new subject matter. If a deep, understandable interest be manifest in Alberta, it is doubtful whether that will "arouse an interest in Canada." The only apparent attempt to connect the known with the unknown is in the "report" and discussion of the climate of Alberta. No definite conclusion was come to about this. The teacher closed the discussion by saying, "They have colder winters than we have here. I do not think it is so comfortable here."

The student-teacher was given a very valuable hint as to a proper childlike approach to this subject, which would have resulted probably in real interest, when a pupil inquired near the close of the period, "Aren't there Indians in Alberta?" A psychological organization of the subject matter would have made surer any degree of real interest in the pupil group.

The third aim, "To find out in what ways Alberta is important," should be again a matter of comparison. "Important" is not an absolute quality. Several items of information are given, but they are unorganized in the children's minds. Because they are mentioned in class does not make them important from any viewpoint.

No evidence appears in the stenographic report that "important places" were located in any adequate or understandable manner.

The student-teacher's fifth aim is evidently lost sight of in the excitement of the exercise and in the anxiety to get expression of anything. The aim seemed to be to keep "something doing," no matter what, but not to be conscious of failure to express adequately any well organized unit of information. The report which the teacher and class "liked," that of Donald, contained seventy words and fewer ideas. The teacher, though, must have been satisfied with these reports *as expression*, as she had planned to give "each pupil one minute to speak." Committee reading and reports would have solved her difficulty in part.

The general plan was to give each individual who had a topic assigned to him an opportunity to tell in a connected report what he had read, and at the close of the period to let the "pupils ask questions about any topic." Seven additional questions are planned for, but they do not appear in any effective way in the lesson as taught. Instead of this topical exercise, the lesson degenerated into the question and answer type of procedure, a hectic attempt to keep things moving.

In fact, a comparison of actuality with theory here shows a wide discrepancy. Something came between the teacher's plans and her execution of her plans which prevented theory from carrying over.

Another measure of the teaching power exhibited in the lesson as taught may be found in a comparison of items of information suggested and remembered. What are the results of an information test covering the subject matter used in the exercise?

The basis for judgment taken is simply the group of geographic facts mentioned during the class period in any way by any pupil or by the teacher. This is, of course, a judgment of the exercise as a development period only. No doubt the reading which many of the members of the class had done in preparation for the exercise had presented to individuals many other items of geographic information. But as this is a judgment of a group exercise, only those items of information which became common to the group through mention and discussion during the class period are considered. These facts are all found in the stenographic report.

The lesson was given February 24. On March 16 the following letter was written to the group of pupils involved.

Dear Boys and Girls of the Fifth Grade Geography Class:

You remember that you studied about Alberta a few weeks ago when Miss Olson was teaching you geography. I want to see how well you remember everything that you read and talked about then.

Will each of you please write me a letter telling me everything that you remember about Alberta? Please talk this over with Miss Black, and write me some long letters about Alberta just as soon as you can.

Sincerely yours,
F. L. Whitney,
"Superintendent of the Training School."

This matter was taken up in the regular language periods. The letters were written without any reading or discussion of the subject matter in question. A letter typical of all of those received follows.

March 19, 1920.

Dear Mr. Whitney,

In Alberta they do quite a bit of poultry and stock raising the most important poultry are; geese, chickens, and partridges. They have quite a number of wild birds which makes Alberta noted for its game. Agriculture is very important in Alberta, the raising of wheat, barley, and rye is very important. Lumbering is not so very important, but still they do quite a bit. They mine quite a few different minerals, the most important are gold and silver. The plains of Alberta are just the thing they need for sheep raising and so sheep raising is very important, Alberta is in the southwestern part of Canada. The Jack-pine and the poplar are the two most important trees that grow there. They catch the lynx, wild-cat, and fox in Alberta.

Sincerely yours,
John Smith.

This letter contains the median number of geographic facts mentioned in all the letters. This median is practically one fourth of the information brought to light during the discussion of February 24. It is not claimed that we have here a correct measure of the efficiency of the teaching during this exercise. But it is a rough, comparative measure, and a suggestion of the inadequacy of student teaching.

An important consideration is involved in the level of geography thinking represented in this fifth-grade group. The members of the class come without exception from homes free from economic strain, where one would find more than the usual amount of reading and discussion of current history. In measuring the amount of geographic information the members of a class have and the way in which they assimilate it mentally, it is necessary to know their store of facts and their thinking ability before the lesson exercise in question.

This measurement was made with the Hahn-Lackey Geography Scale. Columns *U* and *R* were used in the manner prescribed by the authors of the scale. Column *U* consists of six fact and four thought questions. Column *R* has five fact and six thought questions. The questions are of the following type.

> Name five Great Lakes of North America.
>
> Give one reason why the people in the far north use reindeer and dogs instead of horses.
>
> What country is north of the United States and to whom does it belong?
>
> To whom do the streets and roads belong?

An answer sheet is provided for use in scoring the responses of the pupils so that uniformity in judgment may be assured.

For column *U*, in which the standard response for the fifth grade is published as 84, the scores were as follows—70, 73, 88, 90, 90, 95, 100, 100, 100, 100. The median is 95. The range is 30. Ninety-four is the eighth-grade standard as given on the scale.

For Column *R*, in which the standard response for fifth-grade is published as 66, the scores were as follows—59, 78, 78, 78, 79, 79, 82, 83, 83, 83, 86, 90, 90, 90, 92. The median is 83. The range is 33. Eighty-four is the eighth-grade standard as given on the scale.

As measured by the Hahn-Lackey scale, then, the geography ability of this fifth-grade class is equal to that of the average eighth-grade class. If this be true, we shall probably be justified in concluding that the reason for the poor results in the information test after a lapse of about three weeks is to be found in the quality of the student-teaching, and if the class had not been above the average in the matter of general information the results would not have been so good as they were.

It is thought that a fair sample of student teaching is taken above. It must be admitted, though, that it is but a single instance, and further adequate study should cover a wider field of investigation in which surer methods of judging the worth of teaching should be used.

The above statement will serve, however, to call attention again to the most vital point in normal-school administration of teacher training, the organization of student teaching. It may be that we should say frankly that the task of attempting to get teaching skill in one or two years of normal-school instruction is an impossible task.

If we could bring ourselves to do this, it would clear the ground for the application of curricula which might aim at the setting up of attitudes and the development of appreciation. An attainment of these outcomes, combined with well thought out plans for continuance of growth in teaching power during the first years in service, might result in a higher level of teaching skill among state normal school graduates.

HIGH SCHOOL FRATERNITIES

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Occasionally we read of some board of education or of some school executive trying to solve the high school fraternity problem by recognition and supervision of the fraternities.

There is not a good word to be said for the high school secret society. Admitted that these organizations came into existence in answer to a felt need on the part of the boys and girls, the incontestable fact remains that there is not a single valid argument, not even a shred, that can be advanced in support of the thesis that these organizations have, in any way, served any worthy ends that could not have been better served by a different type of social organization.

High school secret societies are exclusive and snobbish. They instill in the member the idea that since he belongs to the society he is, *ipso facto*, superior to his fellow who does not belong. The fraternity emphasizes clothes, automobiles, social extravagances, rather than sterling worth. Usually they put a premium on smoking cigarettes and being generally as tough as possible. The fraternities in Lincoln High School held regular smokers. Rather sophisticated for high school boys! And at these smokers they pledged thirteen and fourteen year old boys.

The fraternities lower ethical standards. The members are frequently taught to lie when questioned by the authorities about their membership. Evidence to substantiate this statement is found in the official stenographer's reports of the investigation of fraternities in Lincoln High School, made by the Lincoln Board of Education. These reports are on file in the office of the Lincoln Board of Education. Similar evidence may be found in reports of investigation made by school authorities in other cities.

A favorite trick resorted to by members of these societies is to deny membership when questioned by the authorities, the rule of the fraternity being that a member, when asked as to his membership, automatically ceases to be a member until he has denied his membership, after which he is automatically re-instated. To the uninitiated I will say that this is no joke but the tragic truth, this perjury having been practiced by many boys and girls in many cities. What a training for American citizenship! What a school for honesty!

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High school fraternities practice incessant intrigue. They intrigue to get their members on the athletic teams and into school offices. They are generally uninterested in all worthy student activities except athletics and they intrigue to kill all activities in which they are not interested. Once intrenched in a school, they will ruin the interscholastic athletics by making it practically impossible for a non-fraternity boy to make a team. Eventually, they will utterly rot the civic life of any high school.

The high school secret society breaks down standards of scholarship, fosters irregularity of attendance and tardiness and a general lack of interest on the part of the member in his school work. Before we entered upon our high school fraternity campaign in Lincoln in the fall of 1917, we had made in the previous year an analysis of the scholarship and attendance records of all fraternity boys in the high school. At that time 129 boys belonged to Greek letter fraternities. A list of 129 non-fraternity boys was made by taking the name of every fifth boy in an alphabetical list of all of the boys in the high school until 129 names had been listed. If the fifth boy in any instance was a high school fraternity boy, the next name of a non-fraternity boy was taken and the count made from that point. The following table shows how the fraternity and non-fraternity boys compared in scholarship.

During the school year 1916–1917

129 Secret-Society Members were tardy........................	802 times
while	
129 Non-Members were tardy only............................	412 times
129 Secret-Society Members were absent......................	1386 days
while	
129 Non-Members were absent only...........................	1085 days
In their Studies	
129 Secret-Society Members failed of passing in................	102 studies
while	
129 Non-Members failed of passing in only....................	48 studies
129 Secret-Society Members made marks of 90 per cent or more in only..	96 studies
while	
129 Non-Members made marks of 90 per cent or more in........	152 studies

In every point of comparison as between the secret society members and non-members, the facts discredit the existence of secret societies. It should be borne in mind that the 129 members were chosen absolutely at random, and could not be considered as in any sense a select group, while the high school fraternity boys boasted that they enrolled the best blood in the institution in their fraternities.

It is always possible to point, in any institution, to a few fraternity boys who are doing good work in their classes, but these boys are exceptions and every study that has been made similar to the one above has shown the same general results.

There are just two ways to deal with the high school fraternity problem. First, the law against fraternities should be enforced. Second, a social program should be developed in the high school along democratic lines that will meet the needs of the boys and girls and thus displace the demand for the high school fraternity.

The least important part of the program, although an absolutely essential part, is that of enforcing the law. In Nebraska, the law definitely prohibits the high school fraternity and gives the board of education wide authority in dealing with the problem. The Lincoln Board of Education decided to enforce the law without any deviation whatever.

Notice was served in June, 1917, that the fraternities would be ousted the following fall. In a letter addressed to the parents, under date of September 7, the resolution adopted the previous June was sent to every patron of the high school, together with a letter including the statistics given above and closing with the following paragraphs:

> In view of the above facts and particularly in view of the fact that high school secret societies are forbidden by law, the Board of Education is confident that the patrons of the Lincoln High School will recognize the justice and the wisdom of its action in this matter and that all the patrons of the school will cooperate in the heartiest manner in the complete elimination of these societies from the school.
>
> The Board of Education wishes to assure the patrons at this time that the faculty and principal of the high school will do all in their power to encourage every worthy student activity. It will be the purpose of all those who are concerned with the administration of the school to make this institution a great democratic community which will serve as a laboratory for the training of citizens, and which will offer to every boy and girl, in so far as is possible with the resources at hand, opportunities for the fullest and richest self-development and culture.
>
> The Board believes that no patron of the school would desire his or her son or daughter to violate directly or indirectly a law of the state. Therefore, in taking this action against high school secret societies, the Board of Education confidently expects the support of all citizens.

The Board has always followed a policy of the utmost publicity as to its dealings with the high school fraternities and as to the social program which was inaugurated by the high school faculty.

Every student registering was required to sign a pledge that he was not a member of and would not become a member of a high school fraternity during his membership in the high school. On the reverse of this card was printed an informal ballot and the parents were requested to express approval or disapproval of the Board's action in enforcing the anti-fraternity law. This was the result: 85 per cent approved the Board's action, 3 per cent disapproved and 12 per cent did not vote. This referendum vote was one of the most effective moves made against the fraternities for it revealed an over-whelming public sentiment against them.

The members were also asked to deposit their fraternity pins and other insignia with the Board as a further evidence of their good faith in signing the pledges. When they refused to make this deposit, every fraternity member in school at that time, totaling about 85, was called before the Board of Education and questioned. The result was a mass of invaluable evidence as to the existence of fraternities and of their effect upon the school and upon the individual. At the close of the investigation, a group of fathers came forward with the proposal that if the members were not required to deposit their pins, the parents and the boys would sign a guarantee that the pins would not be worn. The following pledge was drawn up by the school authorities and signed by every one of the boys:

To be signed in duplicate. ORIGINAL

TO THE BOARD OF EDUCATION:

To effect a definite understanding and as a guarantee and assurance of my sincere and hearty cooperation in banishing secret fraternities from the Lincoln High School, I submit the following statement:

1. During all the time I may be a student in the Lincoln High School, including all holidays and vacations, and up to the time I shall have graduated or permanently severed my connection with the Lincoln High School, I shall on no occasion nor at any time or place within or without the state of Nebraska, wear or display any pin, ring, badge or other insignia of membership in any secret fraternity or other organization whose existence is contary to Nebraska laws.

2. I pledge my word and personal honor that I do not have in my possession nor in my custody, nor in any custody subject to my control, any charter of any secret fraternity as defined by the laws of Nebraska. I agree not to take possession of such charter, or to act under it, or to make any attempt to regain possession of it or to act under it at any time or place during the period mentioned in paragraph one.

3. In the matter of organizing or joining when organized any non-secret club or organization of any kind composed wholly or in part of Lincoln High School students, I agree

(*a*) To consult with my parents in reference thereto.

(*b*) To submit to the proper committee of the faculty of the Lincoln High School a statement clearly defining the objects of the club, the basis of membership, and all the facts as to the management and control of it.

Signed this..................day of October, 1917

In presence of { .... Pupil
....

With one or two exceptions, this pledge of honor was kept in a most remarkable way.

It was necessary, finally, to suspend in February, 1918, sixteen boys who were members of a certain fraternity that was endeavoring to perpetuate itself in the face of the rule of the Board. Of the sixteen boys suspended, five were later reinstated, but eleven were expelled early in March for the remainder of the school year. There had been considerable bluff, but when it came to a show-down no parent or group of parents desired to test the authority of the Board in court. The Board and the school authorities had very carefully built up their case, so that they were reasonably sure of their evidence.

One of the most difficult obstacles that had to be overcome was the exclusive social club that was not strictly speaking a high school fraternity, but which, in the eyes of the boys and girls, either was a fraternity or was characterized by many of the most prominent fraternity traits. These clubs had harmless origins, most frequently growing out of Sunday School clubs or classes, or perhaps they were formed at first in an informal way among the children of groups of parents who moved in the same social sets. These clubs were composed wholly and sometimes only in part of high school pupils. Generally the members were numbered among the very best pupils and wanted to do exactly the right thing, so far as the school was concerned. It was difficult for them to see how their clubs that they knew to be harmless were, in fact, the cause of misunderstandings among the student body in general. Frequent conferences were required with pupils and with parents, and, on a few occasions, with groups of parents and pupils in order to convince everyone that every appearance of a high school secret society must be avoided. Not everyone, either among pupils or parents, was able to get this point of view fully, but in the end practically all saw that the school authorities were right in their contentions, and a splendid cooperation resulted.

In this and in all other matters the Board and the school authorities worked on the theory that the parents desired to do the right thing and were glad to cooperate. In fact, the whole campaign for the elimination of fraternities from the Lincoln High School was a cooperative effort between the Board, the administrative officers, the faculty of the high school, the pupils of the high school and the patrons.

The most important phase of the campaign was that of substituting for the fraternities a worthy social life. This involved, first, the abolition of the old boys' and girls' literary societies that had been in existence many years, but had been corrupted by the fraternities. These literary societies had long ceased to serve any worthy purpose and had become mere social clubs aping the fraternities, and possessing most, if not all, of the fraternity evils. They were closed organizations; they pledged their members and initiated them; and were as snobbish as the fraternity groups. An attempt was first made to re-direct the activities of these societies, but at the end of a year the experiment was voted useless and the societies were abolished by vote of the faculty.

In the place of these societies a number of worthy clubs, such as a dramatic club, called the Mummers, the Writers' Club, a musical club, called the Orpheons, the Hikers' Club and many other clubs growing out of the life of the school, centering in most instances about some of the educational activities of the school, were inaugurated. These clubs were opened to all on the same basis and soon became immensely popular and multiplied in number. The following rules, governing the formation of clubs, were adopted by the faculty and approved by the Board of Education.

1. Membership in student organizations shall be open to all students on the same basis.
2. Membership shall be determined by the work and purpose of the club in accordance with the rules set up by the society and approved by the Student Affairs Committee.
3. All meetings shall be held in the high school building.
4. All organizations shall contribute, in some way, to one of the objectives of secondary education.
5. All meetings shall be sponsored by high school teachers.
6. All bills shall be audited by the financial board of control.
7. No student shall belong to more than one society other than his class organization, unless he meet, at least, the eligibility requirement in scholarship of the athletic association.
8. Members, upon severing their connection with the school, shall cease to be members of high school organizations in exactly the same manner as one ceases to be a member of a class organization.

In addition to these clubs, the opportunities afforded by the regular class organizations in the school were made the most of for the promotion of a democratic social life. The senior, junior, sophomore and freshman classes began to conduct meetings and to give social programs that were worth while. The class is an all-inclusive organization. Its social possibilities have been largely overlooked by high school faculties.

Every other Friday afternoon, under the auspices of the student council of the school and the student affairs committee of the faculty, a matinee party and dance is conducted for all students. Great care is taken to provide social activities for those who do not dance. At first there were many critics of dancing in the high school, but eventually the criticisms died away and this program served in a large way to counteract the tendencies of the fraternities to hold expensive dances in down town hotels.

Before the open fight on fraternities was inaugurated, a student government organization was formed, whereby the students could participate more fully in the government and the life of the school. This organization served as a wonderful outlet for the energies and the interests of the boys and girls, and at the same time, as an instrument for moral and civic education. The student council is a democratic body, chosen at an election at which every person in the school, from the principal to the newest freshman, including all the faculty, may vote. This council serves as a cooperative organisation. Principal Frank G. Pickell of Lincoln High School has described this student participation movement in detail in an article which he has recently written for the School Review. Mr. Pickell was chiefly responsible for this important experiment in democratising the social life of a high school. Another important phase of the problem is discussed in the School Review for January, 1920, under the title, "The Social Life of High School Girls: Its Problems and Opportunities," by Miss Olivia Pound, Assistant Principal of Lincoln High School, who, as adviser of girls, has done a fine constructive piece of work.

The high school fraternities have been driven out of Lincoln High School. If the present policy is maintained for four or five years, it will be very difficult to re-introduce them into the life of the school. The high school fraternity can be eliminated. In the interests of boys and girls, every state law against them should be enforced. Where there is not a state law, the school people should band themselves together to secure such a law.

If there could be one great drive against the fraternities from coast to coast, this evil could be eliminated easily and many a school executive saved a hard fight. Every attempt to dilly-dally with the high school fraternity is a step in the wrong direction.

In numerous other instances fraternities have been eliminated from high schools. The Lincoln experience is reported for what it is worth.

SCHOOL MARKS IN THE HIGH SCHOOL

MARVIN F. BEESON
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Schools marks, as now given, seem to be chiefly an evil, but an evil which at the present time can scarcely be dispensed with. The best that can be done is to improve the marking system so that it will be somewhat more significant than it is at present.

It is generally recognized that school marks have little meaning. In the first place they are subjective and inexact. There is very little agreement among different teachers in the grades given to the same pupils, even on the same papers or examinations.

An illustration of the above statement is taken from the results of the extension course in Educational Tests and Measurements at Montrose, Colorado. Here the teachers enrolled in this course were asked to grade the same examination, which was a brief, simple paper in geography. The grades assigned to this paper ranged from 60 per cent to 90 per cent, the former far below the passing mark of 75 per cent, and the latter a very superior grade.

It may be insisted that most teachers do not assign monthly grades based upon written papers, but as a result of daily observation of the pupils in class. But even when such a procedure is followed, the grading is little if any more reliable than when based upon written exercises. Teachers of the same subjects do not agree in their assignment of marks to the same pupils. I think now of a college student who received the grade of "A" from one professor of education and the grade of "D" from another teacher of education in the same school.

In the University of Missouri before the present system of grading was instituted, one professor gave the grade of "A" to 55 per cent of his students, and the grade of "F" to only 2 per cent, while another professor assigned the grade "A" to only 1 per cent of his students and the grade "F" to 28 per cent.

In one of the state colleges of Colorado during the period of a year and a half the average distribution of the grades of all the teachers combined was as follows:

The highest grade was received by.......	3.77 per cent of the students
A superior grade was received by........	25.87 per cent of the students
The average grade was received by......	63.27 per cent of the students
An inferior grade was received by.......	5.7 per cent of the students
A very inferior grade was received by....	0.8 per cent of the students
Failure was received by................	0.63 per cent of the students

From this it is seen that 92.91 per cent of the grades assigned were average or above, while only 7.13 per cent were below the average, as compared with 29.64 per cent above the average. Would the same students have received the same high marks in any school attended?

Again, the following table of failures in different subjects from the Richmond, Indiana, High School shows that the grading of different teachers is not equivalent:

In home economics	0 failures
In history	3 per cent failures
In science	6 per cent failures
In English	7 per cent failures
In German	15 per cent failures
In Latin	18 per cent failures
In mathematics	24 per cent failures

Certainly mathematics is not 3½ times as difficult as English, and more than 24 times as difficult as home economics. Some other factor besides the difficulty of the respective subjects must be operative.

Examinations do not aid materially in grading more accurately than daily observation, for teachers do not agree any more closely upon the difficulty of examination questions than upon the grading of students by observation.

In one of the Colorado extension classes the teachers were asked to estimate in rank order the difficulty of each of the ten questions of an examination prepared by the school superintendent. There was absolutely no agreement among the different teachers as to the difficulty of the respective items. The question which was estimated as easiest by one was judged most difficult by another. There was no unanimous opinion regarding the difficulty of any of the questions, and a majority of the teachers agreed upon the rank of only the easiest and the hardest.

It is needless to point out that the same difficulty is encountered if teachers attempt to select ten significant questions of *equal* difficulty.

But even if the questions were properly chosen with regard to difficulty, the teachers would still show a very great difference of opinion in their *grading* of the examination papers, as the numerous experiments on the subject, especially those of Starch and Elliott, indicate.

Doubtless one of the factors which contribute to differences in results obtained in marking the same paper is the fineness of the marking scale. Grading is often done on the scale of 100 per cent with

60 per cent or 70 per cent as the passing mark. It has been found by numerous experiments that even the same teachers when re-grading papers cannot, in three fourths of the cases, distinguish a difference in merit smaller than 2 or 3 points on a scale of 100 per cent. The smallest difference which can be distinguished in 75 per cent of the judgments of different teachers is 6 or 7 points. With 70 as the passing grade, this would necessitate such a scale as follows: 70 to 76, 77 to 84, 85 to 92, and 93 to 100. Substituting letters for these four groups of percentile marks, we should have the grading scale A, B, C, and D, representing passing grades, and E for very inferior or failure. Any other similar designations would answer the purpose as well, but these terms are probably more widely used than any other, and seem therefore better suited for universal adoption. For teachers' own use such grades as A-plus, A, A-minus, etc. might be employed so as to increase the fineness of the marking scale to steps of about 2 per cent.[1]

Recently many schools have adopted the practice of giving extra credit for superior work, less credit for inferior work, and normal credit for work of average quality. One of the plans for administering this system is to grant 20 per cent more than average credit for A-grade work, 10 per cent more for work of B quality, and normal credit for C, 10 per cent less credit for D, and 20 per cent less for E-grade work.

It is necessary also to decide whether the grading system is to consider the absolute attainment of a pupil, or his relative standing among 100 or more other pupils. The objection to the plan of grading by an absolute scale is that it is practically impossible for the teacher to employ such a scale. The scale never remains the same. The standard shifts from time to time with any teacher. He cannot remember his standard and apply it in such a way that the estimates will not vary. Seemingly the only method of applying an absolute scale would be by means of standard educational tests, and it is hardly practicable to give these every month, so as to assign the monthly grades according to the results.

Consequently it seems that the better plan is to grade by a relative scale, and to assign any given mark to approximately a certain percentage of pupils. If, for example, 7 per cent of a large number of pupils receive the grade of A, the significance of the term would vary slightly with the ability of the pupils, but if the marks were based upon a large number of pupils the variation in the significance of the marks would certainly not be great in any given section of the country.

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[1] Starch: *Educational Psychology.*

Such a system is more satisfactory for another reason, namely, that it conveys to the pupils and to their parents an idea of the standing of the children in the class or school. As it is, the term B may mean average work; or it may signify better than average; or if the grading is very lenient, it may mean poorer than average. In any case its meaning is not definitely known or expressed.

Probably the best means of obtaining closer agreement among different teachers in the assignment of their marks, and greater significance of the marks assigned, is for them to approximate the normal probability curve in their distribution of marks.

In measurements of the lengths of leaves, of chest girths, of heights of men, or cephalic index, and in various other physical measurements it has been found that this curve of normal variation is very closely approximated. In later measurements of mental abilities the same sort of distribution has been found to maintain. Such a condition has been found by the Er test, the test for memory span, the test for opposites, and others. A similar distribution was obtained from the Army Mental Tests when applied to 1,700,000 soldiers. The same results followed from Terman's measurement of the intelligence of 2000 children, both when all were grouped together and when the children of each age or grade were taken separately.

But most important for our purpose is the fact that very many measurements of abilities of children in school subjects have shown that the same condition holds true in any of the school branches. This, too, applies whether all the pupils of a certain grade or those of all the grades combined are measured.

It follows, then, that a similar distribution of abilities must take place in scholarship, and this fact should be recognised in our grading system in such a way that the assignment of grades will approximate the following distribution:

About 7 per cent should receive A, or the highest mark;

About 24 per cent should receive B, or the mark representing better than average work;

About 38 per cent should receive C, or the average mark;

About 24 per cent should receive D, or the mark representing poorer than average work;

About 7 per cent should receive E, or the poorest mark.

It must be remembered, however, that this law applies only when dealing with a large number of cases. Therefore the teacher or supervisor should not attempt to enforce the normal distribution in each assignment of grades for only one month. Rather a record of the grades should be kept by each teacher for the entire year, and the results checked by comparison with the normal frequency curve. In order not to cause too great disparity in the grades for the last month in the term by equalizing the distribution from these alone, the teacher should assign monthly grades at least with the normal probability curve in mind. It is not likely, then, that the disparity at the end of the year will be so large as to demand a great correction.

It has been found that this law is approximated very closely when grades are assigned by large numbers of teachers to many students covering long periods of time even when no effort is made to do so, since the departures of any teachers from the normal are counterbalanced by other deviations in the opposite direction. In Harvard University, for example, when the grades of all instructors for 8969 students in elementary courses for a period of two years were tabulated, we find a close approximation to the normal curve of error, as the following distribution of these grades will indicate:

The grade of A was assigned to 7 per cent of the students
The grade of B was assigned to 20 per cent of the students
The grade of C was assigned to 42 per cent of the students
The grade of D was assigned to 21 per cent of the students
The grade of E was assigned to 7 per cent of the students

This distribution is almost identical with the theoretical distribution, notwithstanding the fact that no effort was made to approach the normal probability curve.

There are certain cases of "skewness," however, which should be considered in the administration of such a grading system. In the first year of the high-school course a new grading standard is accepted for those who are at that time enrolled in the first year of high school, with no consideration for those who have previously been eliminated from the grades. Consequently the grading curve should be normal for large numbers of first year high-school pupils. As we progress upward in the grades, however, the curve becomes somewhat more skewed toward the higher end with each successive grade. This is due to the gradual elimination of pupils in the upper years of the high school. Yet the elimination is not wholly from the poorer students. Some of the better ones drop out, with the result that the curve becomes gradually skewed toward the right, rather than cut off abruptly at the lower end.

It is also true that small, elective classes will probably not follow perfectly the normal probability curve. Students usually take the elective subjects because they like them and probably have greater talent for them than most of the other students have. They may be reasonably expected, therefore, to succeed better with them than most of the other students would, or than they would with most other subjects. It is natural to expect, then, that the curve of marks for such students will be slightly skewed toward the right.

Sometimes the objection to this system of grading is heard that the method is arbitrary or unfair. It must be remembered, however, that in grading by this plan we are not *devising* a law to which students must arbitrarily be made to conform. The attempt is merely to apply a law which has been found to exist, so that the result of such grading is, in the long run, not greater unfairness, but much greater justice and reliability. Unfairness exists in far greater degree under the usual system of marking, but with the *delusion* of fairness, which every teacher is likely to consider as one of his attributes.

The question of what factors to consider in the grading of high-school pupils is a problem which confronts most teachers who wish to grade accurately. Some insist that the pupils' interest in the subject should be considered. Few would deny that it might be desirable to take into account—if interest and attitude could be accurately measured in any other way than by the results accomplished. Many teachers doubtless believe that these qualities can be estimated, but this is probably because there is no method of checking up on their judgments or mistakes, and consequently each is inclined to remain by his opinion as the correct one. It sometimes happens, however, that a pupil appears deeply interested in the subject, and assumes an agreeable attitude toward the teacher for the purpose of securing a high mark, and on the other hand, some apparently indifferent pupils are among the most talented in the class. In all probability interest and attitude can not be measured at the present time, and should not be considered in our grading systems, unless separate marks are given upon these elements.

A similar question presents itself with regard to effort. This factor is objective and measurable, but the question involves some important pedagogical considerations. Does not grading on such a basis inculcate incorrect ideas of life? Will it not develop false standards and arouse false hopes? A high-grade moron child or a dullard sometimes puts forth an enormous amount of effort, and spends a great deal of time with his tasks, and yet fails of the desired end. The difficulty here is not with the effort exerted but with the original endowment of the pupil. If we reward a dull pupil for effort we merely postpone the revelation of the student's inability until after school life, when he suddenly awakens to the fact that he has been deceived in school, that his effort receives slight reward because other people with more ability can achieve far greater success with less effort. A person's reward in life seems to be not chiefly according to effort expended but according to results accomplished, and these are probably dependent upon native capacity far more than upon effort. Here again, however, this quality might be graded under a separate head, as certain other items, such as attendance, reliability, interest, school and social activities, athletics, etc. In one school system of my acquaintance the pupils are graded upon a half dozen such factors separately each month.

It is suggested further that the following three considerations should be kept in mind in grading high-school pupils according to the results of their work:

1. Scholarship
    (*a*) Capacity, as shown by—
        1. Sustained performance;
        2. Improvement or progress.
2. Information or knowledge of subject matter, as evinced by—
    (*a*) Knowledge of the characteristic facts of the subject;
    (*b*) Application or use of these;
    (*c*) Knowledge of the "growing points" of the subject;
    (*d*) Principles of interpretation of the subject matter;
    (*e*) Some knowledge of sources of reliable information;
    (*f*) Knowledge of accepted methods of work in the subject.
3. The basic principles of scientific method.

As an aid to the correct grading of pupils one of the best possible devices is the standard educational tests and the group intelligence tests. The latter reveal the intellectual ability of the pupils, and the former the pupils' performance in each of the school subjects.

Educational tests are now available for practically all of the high school subjects, and may be used as a valuable aid in the diagnosis of abilities, in marking, in promotion, in checking methods of teaching, and in apportionment of time to various phases of a subject. There are now more than one hundred such standard tests available for use in the high school.

In connection with these, some standard group-intelligence test, such as Terman's Group Test of Mental Ability for the high school ages, or the Otis Intelligence Tests, or the Army Mental Tests, might be used to great advantage. Those teachers and principals who have made proper use of the mental tests in high schools and have studied and interpreted the results of these tests in the light of other criteria, report that these have greatly aided in the understanding of the individuality of their students, and in the solution of many puzzling problems.

In connection with the Coöperative Extension Service the superintendents and principals in the larger towns of Western Colorado have agreed to give during a certain week the same series of standard tests in the principal subjects of the high school, to tabulate the scores from all the schools, and compare the results obtained in the various schools. This is an undertaking which, I believe, has not been systematically undertaken on a large scale with the high-school subjects. It is hoped that the plan may be extended further next year so that the tests may be given twice during the year in order that the progress of the pupils in each subject of the high school may be measured.

PROFESSIONAL IMPROVEMENT OF COLLEGE TEACHERS

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The authors of this article were recently asked by the faculty of Clemson College, of which they are members, to study this subject and make a report.

The need for such a study was suggested; first, by conditions growing out of the war. During the war many of the capable men on college faculties were lost to the colleges, either by entering the service of their country or by accepting positions with commercial concerns at higher salaries than the colleges could pay. There were few men taking graduate work at the larger universities; and, as a result, these positions had to be filled with men of less training and experience and in many cases of less ability. Second, the older men who stayed with their work found it necessary to do extra work, and had little time for professional improvement. Especially was it difficult to get away on leave of absence for professional improvement.

Disorganization due to war conditions is not the only argument for professional improvement. Methods of instruction in different subjects are changing rapidly. Especially is this true of the newer subjects, like agriculture. However, these changes in methods are not confined to the newer subjects entirely; we find a number of institutions revising completely their methods of teaching such old and well established subjects as mathematics, English, and foreign languages.

It is also evident that the value of educational courses has not been fully appreciated. A small percentage of the men now teaching in colleges and universities has had thorough training in such fundamental subjects as psychology and methods of teaching. In fact, the question has been raised as to whether or not departments of education are meeting the needs for methods of teaching college subjects. Much more attention has been given to methods of teaching common school and high school subjects. So far as we have been able to observe very little has been done to develop courses in methods of teaching agriculture in colleges and universities.

In making this study an attempt was made to find out what is being done by the leading colleges and universities of this country and what the leading educators think should be done.

In order to secure this information two letters were sent out; one to more than a hundred colleges and universities, including all the state agricultural colleges; the other to more than a hundred educators, including all the deans of agriculture in the state agriculture colleges. The letter to the colleges asked for statements concerning the methods of professional improvement now in use in their institutions while the letter to the leading educators asked for the personal opinion of each on the subject of professional improvement of college faculties.

The following is a summary of the replies received from 92 institutions and 101 educators:

TABLE I

Methods offered by institutions and suggested by educators for the purpose of professional improvement of college and university instructors in service.

Methods of professional improvement	Number of institutions offering each method		Number of educators suggesting each method		Total
	Com pulsory	Op- tional	Com- pulsory	Op- tional	
Graduate study	3	40	..	19	62
Educational courses of study and seminars	2	10	5	22	39
Reports and discussions	1	6	4	6	17
Research and investigational work	1	6	..	3	10
Scientific and professional meetings	1	4	..	3	8
Teaching in other institutions	..	..	..	4	4
Professional reading	..	..	..	4	4
Publishing and lecturing	..	2	..	1	3
Study clubs	..	..	..	2	2
Observation of teaching	..	..	..	2	2
Lectures	..	..	1	1	2
Conferences	..	1	..	1	2
Supervising practice teaching	..	..	..	1	1
Extension work	1	..	..	..	1
Supervised teaching	1	..	..	..	1
Developing courses	1	..	..	..	1
Visiting other institutions	..	1	..	..	1
Advisory capacity	..	1	..	..	1
Travel	..	1	..	..	1

I. Methods of Professional Improvement

The ninety-two institutions studied offer twelve definite methods of professional improvement for those engaged in professional activities. Of these methods of professional improvement, graduate study is most commonly employed. Forty-three of the ninety-two institutions, from which these data were recorded, reported that they are using graduate study for this purpose. Twelve institutions offer courses of study and seminars in which instructors in the majority of cases may enroll for professional training. Reports and discussions, research and investigational work, and scientific and professional meetings are the other methods of professional improvement that are used to any extent by the institutions studied. Publishing and lecturing are optional methods of professional improvement in two institutions. Conferences, extension work, supervised teaching, developing courses, visiting other institutions, and advisory capacity are each employed in one institution as methods of professional improvement.

In addition to the methods of professional improvement actually offered by institutions, leading educators suggest a wider range of methods which in part are coextensive with those in actual practice. It should be noted that the three methods—graduate study, courses of study and seminars, and reports and discussions—most commonly used in the institutions are the same three methods which are most often suggested by the replies of leading educators. However, it happens that the educators reporting do not place the same relative emphasis on graduate study as a method of professional improvement that it is accorded in actual practice. Judging, also, by the number of times it was suggested, educators place slightly more emphasis on courses of study and seminars than it receives in actual practice. However, graduate study, in actual practice, is more often employed than courses of study and seminars; nevertheless leading educators suggest as a method of professional improvement courses of study and seminars more often than graduate study.

In addition to the methods in actual practice, leading educators suggest teaching in other institutions, professional reading, study clubs, observation of teaching, lectures, and supervising practice teaching as valuable methods of professional improvement.

Table I, also, shows that professional improvement is left optional in actual practice in seventy-one cases, in the institutions reporting, and required in eleven; that it is suggested by thirty-nine leading educators as a function that should be left optional with college professional men, and ten would require it. The optional method is more frequent, both in practice and suggestions. One educator says, "I should not advocate making it compulsory for the reasons that compulsion might defeat the ends desired. Moreover, compulsion interferes with the desired initiative and spontaneity."

GRADUATE STUDY

Approximately one-third of the replies, from the forty-three institutions using graduate study as a method of professional improvement, state that instructors—usually below the rank of assistant professor—may enroll in the graduate schools of their institutions for a maximum credit of from three to five term hours, in addition to their other work. However, not all institutions have graduate schools; and, in many instances, instructors desire to pursue graduate work in other institutions. In fact some institutions require that certain instructors shall have had graduate study in other schools. The dean of one of the leading agricultural colleges says, "For some years we have followed the practice of not promoting men from an instructor's grade to that of assistant professor until they have had some outside experience in other institutions. For research and teaching positions, we require postgraduate studies elsewhere, or a man from the outside, on the theory that we are desirous of recruiting our faculty with people who have a somewhat different viewpoint from that which would be developed by residence wholly in our institution from which they might have graduated."

Graduate study in other institutions necessitates, in the main, leaves of absence. Among the different leaves of absence, the sabbatical leave is a definite or suggested policy in twenty-two cases for providing an opportunity for graduate work. It is the most favored leave of absence for graduate study by institutions and educators, as revealed by this study. Some of the educators specifically state that in their institutions the sabbatical leaves are granted to teachers above the rank of instructors only. Several of the institutions grant sabbatical leaves of absence on one-half to full pay. While the sabbatical leave of absence is the most favored kind, it is not granted to instructors of a certain rank in some institutions unless the instructors first agree to return to the institution for a period of years; sometimes as many as three years of additional service are imposed on each instructor who avails himself of a sabbatical leave of absence.

The summer school is the second most favored leave of absence in use by institutions and suggested by educators. Thirty replies state that instructors are granted leaves of absence to attend summer schools. Practically no mention is made as to whether or not leaves of absence to attend summer schools are with or without pay. A reply from one institution states that, for each instructor who attends an approved summer school, the institution will pay $250 toward his expenses; and the reply from another institution states that it has a $10,000 endowment, the proceeds from which are to be used for paying in part the expenses of instructors who attend approved summer sessions for professional training.

Some of the replies state that instructors are required to teach nine months only and are granted one quarter off for study and research. A reply from one institution states that the instructors are given one month's vacation each year during which time they may study, do research work, or pursue other lines of professional improvement.

Graduate study fails to meet the demands of at least two classes of college teachers; first, the person holding a doctor's degree; and second, the one holding a responsible executive position who finds it impossible to leave the campus for any length of time. In most cases men holding doctor's degrees do not care to pursue further formal graduate work but are desirous of opportunities for professional improvement by other methods. One college president states in effect that the employees of his institution holding doctor's degrees are expected to be constantly engaged in writing and research work. And again, there are certain persons on every faculty whose responsibilities can not be shifted to persons unacquainted with the nature of their work; these men find it difficult to accept leaves of absence for study in other institutions except possibly once in five to seven years. For this group of persons, it must be kept in mind, also, that not all institutions grant sabbatical leaves of absence; and, where this can only be accepted once in five to seven years, it is not sufficient to keep them up-to-date. This is especially true in agricultural colleges.

EDUCATIONAL COURSES OF STUDY AND SEMINARS

By reference to Table I, it may be seen that, as a method of professional improvement, courses of study and seminars are second in importance when considered from the standpoint of actual practice; and first in importance in the aggregate estimation of the educators from whom replies were received. Table II shows that a wide range of educational courses and seminars are offered by the different institutions and suggested by leading educators. The replies received show a lack of standardization; but, when analyzed, the educational courses and seminars may be grouped under four general headings—Principles, Psychology, Methods, and History of Education. Of the nineteen educational courses and seminars listed under specific titles, methods of teaching is the course most frequently offered and suggested. Replies from four institutions state specifically that they are offering courses

TABLE II

Educational courses of study and seminars offered by institutions and suggested by educators for the purpose of professional improvement of college and university instructors in service.

Title of courses of study and seminars	Number of institutions offering courses and seminars		Number of educators suggesting courses and seminars		Total
	Compulsory	Optional	Compulsory	Optional	
Methods of teaching	1	3	2	3	9
Professional study	1	1	1	3	6
Problems of teaching	..	..	..	3	3
Educational psychology	..	..	..	3	3
Principles of teaching	..	..	1	1	2
Methods of college teaching	..	1	..	1	2
History of education	..	..	..	1	1
Principles of art and methods of instruction	..	..	..	1	1
Introductory course in education	..	..	..	1	1
Problems of college teaching	..	..	..	1	1
Problems of improvement	..	..	..	1	1
Theory and art of teaching	..	1	..	..	1
Current educational problems	..	1	..	..	1
Educational methods	..	..	1	..	1
Curriculum and methods of instruction	..	..	..	1	1
Psychology and child study	..	..	..	1	1
Course in reading	..	..	..	1	1
Efficiency in study and teaching	..	1	..	..	1
Improvement of college teaching	..	2	..	..	2

in methods of teaching. Three of these are compulsory and one optional. The other six courses offered by different institutions have as great variety of titles as the number of courses offered.

Leading educators, also, place methods of teaching first in their suggestions, and some replies from educators attached considerable importance to educational psychology. One professor of education says, "The best general approach to professional improvement, in my opinion, would be an introductory course in the applied type of educational psychology which would approach the subject of college instruction in somewhat the same method that commercial psychology now approaches the problems of advertising and salesmanship. Such a course would include a survey of the psychology of later adolescence, psychology of individual differences, the learning process, and above all the psychology of intelligence."

From the standpoint of purpose and method of organization, the nineteen educational courses and seminars for the professional improvement of college teachers may be divided into two kinds; namely, special and regular courses. The special courses of study and seminars are specifically planned to meet the needs of college teachers in service who are deficient in methods of instruction. These courses vary in length and method of organization in the different institutions studied. Some of these special courses might be designated "short courses," and are usually organized for a particular faculty of a school, college, or department. They are frequently given as intensive courses in methods of college teaching independent of the school or department of education,[1] and are in most cases given by some prominent man from another institution. As one educator expresses it, "A short course of study conducted by a high class outside man." These courses vary in length from three days to one week. So far this year, the replies state that four institutions are conducting such courses. One institution is offering a short course in "Improvement of College Teaching;" another institution is offering a short course in "Theory and Art of Teaching;" and two institutions are offering short courses in "Methods of Teaching."

In addition to the short courses organized and conducted for a particular faculty, schools and departments of education are offering other special courses of study and seminars for instructors in the institutions. The replies clearly indicate and state that these courses are organized and offered for inexperienced instructors who are deficient in methods of college teaching. A course of this type in "Efficiency in Study and Teaching" is conducted in one institution for a period of one hour a week for three months for the entire faculty. For instructors notably deficient in teaching, one institution offers a course in "Principles of Teaching;" and the instructors in a prominent agricultural college are given an opportunity to enroll for a one unit course in "Methods of Teaching."

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[1] An interesting fact, not brought out by the above table, is that the institutions offering the courses of study and seminars are institutions that have graduate schools in which there is an opportunity for instructors to enroll for professional improvement courses and seminars in the departments and schools of education.

Some institutions permit members of their faculties, who are ranked below assistant professor, to enroll in the regular graduate courses of the institution while pursuing the lines of work for which they are employed. In addition to an opportunity to improve professionally, these men are enabled to work for higher degrees, but in most cases are not permitted to carry more than a maximum of from three to five credit hours per term as previously mentioned. The fact that the special courses are open to the entire faculty and are organized for a definite felt need distinguishes them in the main from the regular courses.

Reports and Discussions

The third method in importance, as indicated by frequency of occurrence, in use by institutions and suggested by educators, is reports and discussions. The replies state that extra faculty meetings, and sometimes regular faculty meetings, are held for the purpose of discussing such topics as problems of teaching, departmental administration, and student welfare. Special committees of the faculty are appointed to make studies and reports on methods of instruction. Outstanding instances of superior teaching are brought to the attention of members of the faculty through bulletins and other means. The results of surveys made by experts on methods of teaching are sometimes published for the benefit of the faculty. One prominent educator suggests the following: "In an ideally efficient college there should be a research department which devotes all its time to the study of the functioning of the college. Such a department would be advisory to the president and faculty in the collection and dissemination of improved practices; and, specifically, it should cooperate with the faculty in the improvement of teaching. This is a practice common in industries; but found in very few colleges, even though their work is more important than strictly business enterprises."

TABLE III

Reports and discussions offered by institutions and suggested by educators for the purpose of professional improvement of college instructors in service.

Subjects	Opportunities	Definite		Suggested	
		Compulsory	Optional	Compulsory	Optional
Questions concerning teaching, departmental administration, and student welfare.	Faculty meetings.........	..	..	1	
College pedagogy.............	Conferences.............	..	..	..	1
Pedagogical discussions of the theory and practice of teaching.	Faculty meetings.........	..	..	1	
Problems of teaching..........	Informal meetings Round table discussions Faculty meetings	..	1	1	2
Methods of instruction........	Studies made and reported by members of the faculty................	..	3		
Outstanding instances of superior teaching.	Brought to the attention of the faculty through bulletins and other means	..	..	1	
Educational problems.........	Research department.....	..	..	..	1
Teaching qualities of various instructors.	Reports made by advisor to the faculty...........	.. ..	.. ..	.. ..	1
Methods of teaching..........	Survey by experts........	..	..	..	1
Methods of administration and teaching.	Committee on methods of teaching................	..	1		
Professional improvement.....	Faculty meetings.........	1			
Results of research problems...	Faculty meetings.........	..	1		

TEACHING IN OTHER INSTITUTIONS

Teaching in other institutions is commonly brought about by the exchange of instructors during the regular and summer sessions. In commenting on the possibility of the exchange of professors as an opportunity for professional improvement, one vice dean and director of an agricultural college says in part, "It surely ought not be for a less period than a half year. I believe, however, that there are objections to this exchange. Teachers who would come from another state into this state, and teachers from this state going into another state would find themselves greatly handicapped for at least one year in becoming acquainted with conditions, and I believe that students would lose more than they would gain from such an exchange of teachers. A teacher of Chemistry of course might go from Maine to Florida without serious consequences. However, the exchange of teachers in Horticulture, Agronomy, Plant Pathology, Entomology, Animal Husbandry, and perhaps other subjects would, it seems to me, result in weakening the instructional work during the first year of the exchange, because I cannot conceive of a teacher being able to teach agriculture where local conditions becomes a prominent factor without first having had an opportunity to study the conditions carefully, which always requires a period of about one to several years."

Observation of Teaching

Two possibilities are suggested under this method; namely, the observation of public school and college teaching. One educator says, "Another method of creating improvement in teaching is through the visitation of college teachers to nearby high schools where good teachers may be seen at work." As evidence in support of the fact that college instructors might observe good teaching in the public schools, the following excerpt is quoted from the report of the Land-Grant College Association Committee on Instruction in Agriculture, Home Economics, and Mechanic Arts: "There are a few eminent educators in this Association of Land-Grant Colleges who believe that the quality of teaching in high schools is better than much of that in our colleges. If this be true it is due, not to the superior academic or technical training of the high school teachers but to their better professional training and supervision."

As an opportunity for observing college teaching, it is suggested in one letter that a system of interdepartmental observation of teaching might be inaugurated which would be helpful in improving methods of instruction.

Professional Reading

Professional reading is suggested by four educators as a method of professional improvement. These replies state that the university or college library should contain books, magazines, and periodicals covering the fields of study and teaching represented by the members of the faculty.

Research and Investigational Work

Several educators state and suggest that research and investigational work may be carried on to good advantage during the summer vacation, and others state that instructors should be constantly engaged in research and investigation work. One educator says, "A man who does not do any research or writing, in the process of time, will simply dry up and work himself out of a position with us." A dean of a prominent agricultural college holds that those engaged only in teaching should do some research and investigational work for their individual good.

SCIENTIFIC AND PROFESSIONAL MEETINGS

Some institutions pay the expenses of one representative of each division or department each year to attend one national association meeting relating primarily to the work with which the individual members are associated. Other institutions pay only the railroad fare, and still other institutions have stipulated sums that they will pay toward the expense of certain individuals to attend scientific and professional meetings. The majority of replies indicate that the privilege of attending associations is extended to certain individuals only. However, one institution requires each member of the faculty of the rank of an instructor to attend one convention or meeting each year of professional character.

SUPERVISED TEACHING

The dean of one agricultural college is of the opinion that in well regulated departments, the head of the department should carefully supervise the teaching of the other instructors in the department, and especially the inexperienced ones.

VISITING OTHER INSTITUTIONS

The heads of departments in one agricultural college are supposed to visit, once each year, a department doing similar work in some other institution.

Study clubs, lectures, conferences, extension work, developing courses and advisory capacity are in use by institutions and suggested by educators as other methods of professional improvement.

II. RESPONSIBILITIES OF THE INSTITUTION

Since one hundred one of the replies either state that the institutions are offering a definite program of professional improvement or suggest one, it would seem that there is a feeling that the responsibility to provide the opportunities for professional improvement rests with the institution. A number of the replies further state that those instructors who do take advantage of the opportunities offered for professional improvement are given recognition by advancement in salary and rank. On the other hand, some institutions suggested that the failure on the part of the instructors to improve professionally results in the failure of promotion and in some cases of dismissal.

III. RESPONSIBILITIES OF THE EMPLOYEES

The fact that it is the duty of the employees of an institution to take advantage of all opportunities for professional improvement offered by the institution was brought out in many of the replies. It was, also, suggested, in addition to the opportunities offered by the institutions, that there are lines of improvement that faculties should pursue of their own initiative. Departmental seminars for the discussion of professional problems, the organization of faculty clubs for the same purpose, and informal meetings for the purpose of discussing teaching problems are among the number suggested.

IV. PRACTICAL DIFFICULTIES

The practical difficulties in the organization of professional improvement programs, as stated in the letters, are the financial status of the institution, salary scale of employees, and the teaching schedule. It was several times stated that the financial resources of the institution would not permit any comprehensive program of professional improvement. Other replies state that the salary scale of employees is so low that it is impossible to expect the members of the faculty to take much individual initiative to secure professional improvement. In some cases the salary scale is so low that faculty members do not feel inclined to accept leaves of absence when granted. Several replies emphasized the point that no continuous program of professional improvement need be expected in any institution in the way of research and investigational work, professional reading, enrollment in professional courses, and other activities when the teaching load demands practically all of the instructor's time. One educator says, "It seems to me every college should lighten the teaching work of its staff to the place where every instructor would be able to do a certain amount of advanced work in his specialty or along strictly professional lines." However, it was recognized, by the replies, that these should be only temporary difficulties, and there is abundant evidence that all of the one hundred one institutions are interested in a comprehensive program of professional improvement, and that the above difficulties should be removed.

From these data, it would seem that the following suggestions may be considered as representing, in the institutions studied, the best thought on the subject of professional improvement of college employees:

1. The institutions should provide opportunities for a number of methods of professional improvement, the nature of which to be determined by the peculiar needs of each institution.

2. The opportunities offered by all institutions should be sufficient in scope to provide a continuous program of professional improvement.

3. A professional improvement program should be flexible enough to take into consideration, at least, the following factors:

(*a*) Age of employee.
(*b*) Experience of employee.
(*c*) Previous training of employee.
(*d*) Rank of employee.
(*e*) Nature of employee's work.
(*f*) Future work of employee.

4. It is advisable under most conditions to leave professional improvement optional with the employees.

5. Certain kinds of professional improvement should be organized for the faculties of particular schools, colleges, and departments within institutions.

6. The institutions should give recognition in salary and rank to those employees who improve themselves professionally.

TRAINING FOR LEADERSHIP IN STATE NORMAL SCHOOLS

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> "The time to impart ideals is during the training period; and an introduction to the social point of view, and the social and industrial problems of the nation ought to be an essential part of the work of every normal school. The normal which is essentially an apprentice school will inevitable turn out teachers with little vision or possibility of growth."—E. P. CUBBERLY.

Probably the first step in the consideration of this problem is to attempt to locate and define leadership. What is it? What are the forms of its expression? What are the qualities differentiating leaders from non-leaders?

To begin with, leaders must exist. Where there is no leadership the people perish. Leadership implies going somewhere—toward something. A lack of leadership implies apathy, brute inaction, a dissipation of power through aimless and goalless confusion. Then, leadership marks the dividing line between human progress and human decay. Take any unit of society; for instance, boys on the school playground. Ordinarily, they present a scene of strenuous activity. There is a continual rushing, tumbling and devising new channels of action. Now and then, occurs a tragic exception. Everything is listless, there is no animation. The boys slouch around, lean against trees. There is no vital radiance in their faces. A chronic *ennui* dulls their eyes. Those boys are suffering from a lack of leadership. Inaction is not their normal state. It is their normal foe, and in the absence of the salutary influence of leadership it works its harm. But let a leader come to these boys and the scene changes. Noise succeeds silence; action succeeds inertia; vitality succeeds morbidity; rough forms of system rise above the dead levels of aimlessness. Take a larger unit. Every one is familiar with that degenerate cross section of society, the leaderless neighborhood. It lives in mental and physical sloth. Its horizon is pitifully small. It moves forward to no destination or event. That neighborhood which quickens and throbs to the call of a leader reveals the other side of the picture. Let me give a concrete instance:

Fifteen years ago, strawberries were a luxury in Warren County, Kentucky. Sometimes people went out into old fields and picked a gallon of wild ones, a process usually requiring half of a day. A few progressive farmers had a bed of vines in their gardens. One year, one of these farmers had an abundant yield on his little patch, and his thrifty soul rebelled at the idea of their rotting in the garden. So, he did a daring thing. He sent twelve gallons to Louisville by express. In return, he received a check for four dollars. An idea was born at the sight of that check, and he doubled the size of his bed. The second year, his check was for thirty dollars. Then, he planted an acre, but it was not so easy to market so large an output unless the principles of coöperative selling were employed. He then went about persuading his friends to raise berries, and to pool their crops. A selling agent was employed. Rapidly production increased, and likewise the selling capacity of these organized growers, until in 1921 the income of Warren County for this crop was $745,000. Hence, in respect to this one item, the difference between Warren County leaderless and under leadership is $745,000, and the wide range of blessings which that amount implies.

Of course, not all of the leadership necessary to achieve that end existed in this one man. It will be seen later that one of the fundamental qualities of leadership is the ability to recognize and employ leadership in others.

But since this paper has to do with educational leadership, let me recall the familiar contrast of the *led* and the *unled* school. In the latter there is no vision, no fine play of the imagination. Day after day, the work follows in lifeless cycles. Too often the main problem of the teacher is to achieve the passing of the hours which make the school day. The loss, spiritual and otherwise, entailed by such a school is frightful. But the *led* school is a fountain head of controlled action. Leadership vitalizes courses of study. It develops pride and a consciousness of progress on the part of the children. It relates home, church, and country with the school. It wages warfare against dirt and ugliness. It uses every opportunity to bring the people of the neighborhood together on a wholesome basis. So, here, the difference between the presence and absence of leadership is expressed in terms of vitality. The *led* school is alive. The *unled* school is dead. And that, in general, locates leadership. It is the vitalising and revivifying agent of society.

But the fact that Warren County produced and sold no berries prior to 1905 does not mean at all that there was no leadership existing. Surely, it existed. It simply did not "function." It is true, in like manner, that the teachers of many *unled* schools have within them dormant qualities which, if developed and put into action, would achieve remarkable results.

What, then, is the problem of the normal school in the development of leadership? It is the big general problem of locating and developing leaders, plus the specific problem of directing that leadership so that it will function through the activities of the school. Of course, education is in itself productive of leadership. It is supposed to develop culture and powers of organization and evaluation. It is supposed to train—and does train—its recipient in tact, in taste, in address, in adjustment. Education on its secondary levels reaches a select group. No one will deny that certain possibilities of leadership are either omitted or included in one's birthright. Children arrive in the world decidedly unequal in assets. The nervous system of one affords a sterile field for training in leadership; of the other, a fertile field. Ordinarily, it is this second class whose members make up the student bodies of secondary schools. This grouping continues to readjust itself through the uppermost levels. A very select group is made up of the graduate students of Teachers College, and other institutions of similar rank. In a lesser degree, students of state normals manifest marked qualities of leadership. A few are hopeless. They will be eliminated by the operation of the inexorable law of survival.

Assuming that the students of a normal school are worthy of training in leadership, the question remains, What training? General, specific, or both? The general training, as we have said, exists. Its product is the disciplined mind which education achieves. It exerts also a selective influence. It chooses those who are fit for leadership, trains them, and invests them with the responsibilities of leading. A degree or a diploma from a widely known institution carries with it far more significance than the mere area of the work covered. It carries with it a definite consciousness of responsibility, a consciousness of power, a pride that feeds on accomplishment. In the measure in which it inculcates this feeling of obligation to succeed the normal school educates for leadership.

Against some normal schools, the criticism is urged that they tend to mechanize their courses. Also, that they tend to rely too strongly on what certain leaders in the field have said and done. An instructor becomes attached to the teachings of a leader and, in turn, passes them on to his students. This point was made against the tendency of certain normal schools in a recent article published in an educational magazine. It is not at all valid as applied to normal schools as a group. It would be if every instructor taught the same courses and emphasized the teachings of the same leaders. Thorndike has pointed out that a study, emphasized though it may be, of the theories and practices of a leader in education, or any field, does not deaden the qualities of self-reliance but rather strengthens them. The normal school has an opportunity of arranging for its students an acquaintance with the great leaders in educational thought.

Now, as to specific training having leadership as an objective. What should be offered? The main curricular effort of the normal should be to maintain the proper balance between the academic and professional branches. It is equally important that every teacher know both content and method of that which he teaches. There should run through all of the courses of the normal school that strain of wisdom which the race has accumulated through its long experiences. It is my belief that every graduate should know more, much more, of mathematics, ancient and modern languages, literature, and sciences than the high school can possibly provide. No formulated requirement can be stated here because of the wide diversity of conditions. It is my contention that these fundamentals must not be neglected even though one's chosen field may lie elsewhere. Immature specialization dwarfs leadership. I know a farm demonstration agent who is an expert in theoretical and practical agriculture. Yet his leadership is restricted to a small area because of lack of familiarity and sympathy with other fields of human endeavor. His judgments, while agriculturally impeccable, are often at serious fault socially, simply because his perspective is inadequate. I hold that normal schools sacrifice leadership when their courses are not fundamentally broad.

Courses in sociology, economics, history and government cannot be omitted, but must be emphasized. They are essentially the records of the achievements of leaders. They present the indubitable assertion that all progress is wrought through leadership. A normal school should carry a rigorous but practical course in public speaking. Leadership oftentimes trips over a heavy tongue. The value of the ability to stand in public and state a point clearly, compactly, and interestingly can hardly be overestimated. Nearly all educational leaders are ready speakers. The administrator or teacher is thrice armed whose words are fitly spoken. Likewise, the successful teacher should be able to arrange lucidly and logically his thoughts in written form. I think that vigorous courses in rhetoric are a necessary part of the required work of every normal school. I believe that every advanced course should include a term paper in which the student has presented, and proved, some thesis inherent in the course. Research work, too, should be required of every student. Recently, I asked a class to compile data touching upon the history of twenty-five rural schools for the past ten years—teachers, qualifications, census, attendance, salaries, and present locations and vocations of the teachers named. It was their initial experience in research, and, while necessarily elementary, it threw them on their own resources. The information, except that concerning the present activities of the teachers, could be secured only from the files of the county superintendents. It did not occur to me when I made the assignment that a large part of its value lay in the training for leadership it afforded. But as the students told me of their experiences, their zest in pursuing elusive items, their care in checking for accuracy I became more and more aware of the developmental value of such work when properly supervised. There is, I am sure, excellent training for leadership in the work of the practice school. The nature of practice teaching demands the assertion of leadership. It is, viewed from one angle, a supervised course in the "practice" of leadership.

Probably, the most effective direct training for leadership available in any school is offered through the extra-curricular activities—in class activities of various kinds, and to some extent, in the organization, promotion, and presentation of athletic events. Class and interclass programs and contests are born of and nourished by leadership. They are at once a developmental and a selective process. Those who have inherent qualities of leadership naturally gravitate into tasks through the discharge of which those qualities find growth. Those who can never be leaders remain on the outskirts until eliminated. I find an appropriate illustration in the Summer Session of Columbia University which I am now attending. The Southern Club will give a reception presently. Each affiliated state will present a "stunt," in competition with other states. The organization and rehearsal of this stunt requires the play of leadership, and insures its culture. To achieve full credit for the state a dozen qualities, all necessary ingredients of the ability to lead, must be brought into use—tact, patience, resourcefulness, sympathy, pride, and a sense of proportion in things. The obviousness of this makes further discussion unnecessary. I have mentioned public speaking. The major course in "forensics" must always be extra-curricular.

Finally, the teacher must be abreast of the times. There is little insistence that he shall be familiar with the life and achievements of Fred Fulton, but he should know the main issues of the contest between Capital and Labor. He should have, at least, some conception of the Einstein theory of Relativity. He should have read "Main Street," or, at any rate, know something of contemporary literature. I insist that every one of my students in the normal school shall read carefully those items in a daily paper which flow out of the currents of our national life.

Here, then, in general, are my recommendations:

1. As rapidly as practicable, enlarge the state normal schools into teachers colleges, maintaining courses four years above the high school. This will dignify the institutions, dignify leadership within the institutions, and dignify the product of the institutions.

2. Strive diligently for a proper equilibrium between the academic and pedagogical. An overemphasis of either is unfortunate. A real teacher must know both content and method. Otherwise, leadership becomes dangerous.

3. That which for lack of a better term we sometimes call "general culture" must not be neglected. A leader in our schools should have read Emerson's *Essays*, *Les Miserables*, *Lorna Doone*, the dramas of Shakespeare, Dante's *Inferno*—I name these as typical of those monumental literary creations which are a part of the generation's heritage. He should be able to recognize some corresponding bits of music. *The Spring Song*, Schubert's *Serenade*, *Trăumerei*, Brahm's *Lullaby*, some of the airs from *Il Trovatore* and *Faust*. He should know and appreciate *The Sistine Madonna*, *The Angelus*, *Spring*, *The Last Supper*, *Sir Galahad*, *The Landing of the Pilgrims*. The normal school has direct responsibility in this matter—a responsibility which can hardly be discharged through a formal course.

4. The normal-school student should be encouraged to read a daily newspaper, a weekly book review, and at least to scan our leading monthly magazines.

5. The normal school must impress its students with their obligation to know and respect the leaders in the teaching profession. It should represent its practice school as the local experiment station wherein the theories of these leaders are put on trial.

6. The normal school should in every possible way bring its students into wholesome contact with each other. It should give its students every opportunity to manifest qualities of leadership. It should constantly suggest to them the premium that society rightly puts upon physical appearance, and upon compliance with its customs.

In achieving these ends, the normal school will go far toward evolving the highest possible type of leadership.

IS THE JUNIOR HIGH SCHOOL DOING WHAT ITS ADVOCATES CLAIM FOR IT?[1]

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Is the Junior High School doing what its advocates claim for it? An answer to this question on the basis of an adequate scientific investigation would be exceedingly difficult to obtain. An institution as complex as a school has so many variable factors that one can not always be sure which of the possible factors has produced a given result. Let us suppose, for example, that in a given city the seventh, eighth, and ninth grades are reorganized and designated as a junior high school and that educational results are better in these grades after the reorganization: it is still a question whether the same improvement would not have been made, had the same amount of attention been given these grades without organizing them as a junior high school. We must guard against the old logical error of assuming that because one thing follows another it is produced by it. It is a popular error: a person is ill; he takes a particular preparation; eventually he recovers; and forthwith he sings the praises of that preparation—and particularly so, if taking the remedy resulted from his own suggestion.

A scientific answer to our question is difficult for a second reason: there is no such thing as *the* junior high school, if by that term is meant an institution of uniform organization, administration, and curriculum. In many particulars so-called junior high schools are about as different as the buildings which house them. I suppose that about all we can mean by the junior high school is the organization as a more or less separate unit for purposes of supervision and administration of the two or three grades sometimes known as the seventh, eighth, and ninth grades which immediately precede the last three years of the public school course. Let us at least be clear in our thinking by admitting at the outset that the junior high school is not synonymous with departmental teaching, promotion by subject, enrichment of the curriculum, higher qualifications for teachers, or any other of the adjustments which may be made without the establishment of a junior high school as such and which may or may not result from the establishment of a junior high school. Our problem, therefore, really breaks up into a number of problems. We should, for example, inquire

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[1] A paper read at the Conference of Superintendents and Principals, Boulder, Colorado, April 1, 1921.

whether and to what extent these grades are benefited by departmental teaching, what changes in subject matter have produced good results, whether separate housing has simplified the discipline, and so on with reference to each of the major readjustments which is suggested in connection with the junior high school. Then we should ask as a separate question whether the resegmentation of the public schools to produce a new and more or less independent unit to be known as the junior high school is desirable.

In discussing the question proposed in the title of this paper, I shall introduce first a quotation from Briggs (*The Junior High School*, p. 321):

> "In conclusion, it must be repeated that the facts and opinions cited are to be considered chiefly for the schools furnishing them; other conditions doubtless would furnish different results. But in so far as these data are representative, they show that junior high schools do tend to increase the enrollment of pupils of early adolescence, especially of boys, to retain them longer in school, to bridge the gap between the elementary grades and the high school, to furnish better provisions for pupils of varying abilities and needs, and to increase the interest, school spirit, and community support. On the other hand, the data show that much yet remains to be done in the rewriting of courses of study and in the improvement of instruction, particularly in academic subjects to be continued in high schools. The junior high school must still be considered an opportunity rather than an achievement."

What do schoolmen of Colorado think of the junior high school? A few weeks ago I sent out to superintendents of first-class districts an inquiry consisting of three questions:

1. Has your system a junior high school organized as such?
2. According to your observation and experience, is the junior high school doing all its advocates claim for it?
3. If the junior high school is not doing all its advocates claim for it, why not?

To the 31 inquiries 24 replies were received. Seven of these systems were reported as having junior high schools. Three replies were classified as doubtful or as indicating a transition stage. The remaining 14 (58 per cent) did not have junior high schools organized as such, although in some cases, there were administrative adjustments or other changes departing from the traditional plan. In general, the replies to the inquiry indicated a rather conservative attitude. One superintendent, to be sure, stated rather enthusiastically that "The junior high school, in my way of thinking, is doing more than is claimed for it." Another reply, however, is more nearly typical, "They claim too much. But it is a good move undoubtedly." The following are among the difficulties stated:

1. We find our junior high school "difficult to administer. We need more money, better teachers, closer supervision."

2. "I do not wish to give the impression that I do not prefer the junior high school organization to the older system, but I do feel that in many respects the plan is a failure. It usually breaks down in its mechanical organization. Discipline fails because we jam a senior high school organization too low in the grades. Result—many of the problems of control that we should not face until the middle of the senior high course come about the end of the junior high. I am trying to say that we get our independent young American too soon. I am convinced that the failure of many high school principals in the past ten years can be traced directly to the looseness of junior high discipline or at least to the introduction of senior methods of control into the seventh and eighth grades."

3. Encourages "too early a choice of a life vocation."

4. "Where the junior high school is falling down is in localities that are too small."

5. "The mere reorganization of the junior high grades for administrative purposes has too often left the spirit and internal workings unchanged. The outward form has mighty little to do with the case."

The last remark recalls the reply of another superintendent who gives an actual example of an alternate plan of organization:

> "Our seventh grade is handled separately as a unit. Then our high school enrolls all the grades, eighth to twelfth inclusive. There is no elimination in the seventh because this is too soon to drop out of school. When our pupils get into the eighth grade, they are a part of an organization that has no stopping place until the end. Everything is studied with a view to something else. All the opportunities for specialization are emphasized, but they are removed until fundamental preparation is made. We think this plan works well. Out of 630 pupils enrolled in this five-year high school, 98 are in the senior year."

From this introductory background I shall now turn to a brief and hence somewhat dogmatic statement of my own position. I agree substantially with the statement quoted from Dr. Briggs that the establishment of the junior high school has tended "to increase the enrollment of pupils of early adolescence, especially of boys, to retain them longer in school, to bridge the gap between the elementary grades and the high school, to furnish better provisions for pupils of varying abilities and needs, and to increase the interest, school spirit, and community support." I agree further that "much yet remains to be done." I view with a great deal of concern two opposing tendencies in dealing with this problem: on the one hand the tendency to adopt the mere external form of a reorganization leaving conditions in the several grades without material change, and on the other hand the tendency to impose an organization, a curriculum, and a method borrowed from the senior high school. Moreover, I am not at all convinced that the resegmentation of the public schools to produce a more or less independent administrative unit known as the junior high school is either necessary or even universally desirable. What we need, I think, is more study of particular problems in particular school systems rather than a passive following of precedent elsewhere established. The main point of my paper, if it has a point, is, negatively, a protest against the chopping up of our public schools into parts with more or less independent organization, curriculum, and method; and, positively, a plea for a consideration of the school from the kindergarten through the high school as a unit without breaks, gaps, or stops.

The traditional divisions of the public-school system are to some extent historical accidents. No one gave us the system ready-made according to a plan carefully worked out in advance. Like a certain character in fiction, it just grew. Divisions have appeared because, in the making of the schools, institutions and tendencies of somewhat separate origin have developed and have finally come together. In other words, the public-school system has developed in parts, and there is for this reason more or less maladjustment between the parts. An engineering project offers a rather crude analogy. Let us suppose that we are building a railroad across a somewhat irregular landscape. Different engineers are assigned the task of building certain portions of the road, but there is no provision for general oversight or consultation. You can imagine the result. Even though all might have in mind the same general objective, we should hardly expect to be able to run a train over the entire system without some bridging of gaps between the several segments. Education has a similar problem. The traditional segments do exist. Although not designed by a single engineer for continuous through passage, they must be utilized while readjustment is in progress. Their present organization, curriculum, method, and spirit tend strongly to survive because they are supported by custom, by law, by the special interests of those whose attention is confined to a single segment of the whole system, and even by the very habits of thinking of all who have been trained in them. To return to our analogy, the obvious thing to do is temporarily to bridge the gaps which exist and to set upon the task of fundamental and permanent readjustment with as little inconvenience to traffic as possible.

This, crudely it is true, represents to me the function of the junior high school. In many school systems (not all, I think) it is a useful institution temporarily to bridge a gap, a gap which we may hope in due course of time to eliminate by a more fundamental readjustment. There is perhaps something attractive in the very term "junior high school" which makes it easier to break away from the traditional treatment of the upper grades and which makes it easier to enlist the support of the public in a more expensive program. It is possible, too, that in certain situations the seventh, eighth, and ninth grades should be given a distinctive organization and separately housed. Yet it is the part of wisdom to project ourselves into the future and provide to the best of our ability that adjustments which we make now may not later become a menace. We may be very sure that the junior high school once established will tend to persist and to develop with limited perspective, just as the divisions of the public schools previously established have done.

I have tried to suggest a conception of the public school as an institution having real continuity and unity. If the point which I have been urging is well taken, it means that there must be in the schools someone or some group of persons who are equally and actively interested in all of the several grades. In cities of moderate size, this person will doubtless be the superintendent. It is a dangerous doctrine which makes the superintendent a mere business manager and which turns over the strictly professional work to principals and supervisors who are interested in only part of the whole system. We are free to recognize the advantages and even necessity of specialization; let us recognize its dangers also. It is difficult at the same time both to give ourselves with the abandon of a specialist to a particular task and also to see that task in its relation to the whole of which it forms but a part. The moment we give identity to any series of grades and supply them with a separate administrative, supervisory, and teaching staff having distinct training and interests, we must face the dangers which always accompany a lack of perspective. Someone must furnish this perspective.

Even the name "junior high school" is not without its bearing upon the problem of a continuous and unified school system. It is a well established fact that a convenient name helps to give a thing identity. It may well be that the name itself will help to create divisions from which we are trying to break away. It seems quite probable, for example, that designation of the last grades of the public school as the first, second, third, and fourth years of the high school is less desirable in this respect than the designation as ninth, tenth, eleventh, and twelfth grades. It seems to me much better also to distinguish groups of grades, in as far as they need to be given distinct names, not as separate schools but as *departments*. One would say, for example, the primary department, the intermediate department, the junior department, and the senior department.

The alleged necessity for separate housing of different groups of grades needs critical examination. I rather suspect that the smaller communities have been too greatly influenced by the methods of housing provided in the larger cities. It is argued, and perhaps rightly, that placing the eighth grade in the same building with the high school tends to eliminate the gap between the eighth and ninth grades. If so, will not the same argument hold for any two successive grades? The tendency to scatter public school buildings and equipment in situations where this scattering is not demanded by the distribution of the population is to be regretted from the standpoint of economy also. It is obvious that concentration of school facilities making them available without needless duplication to a larger number promotes economy. And may I say parenthetically that the necessity for economy in the schools is becoming more and more insistent? As taxes mount higher and higher, far-seeing men and women have begun to wonder where the funds may be obtained to give all the children of all the people the education which we boldly assert to be their birthright. There are two examples which I may be permitted to bring to your attention for their suggestive value. The first is the use which is made of school buildings under the so-called Gary plan. The second is the success which teacher-training institutions have in administering all of the grades from the kindergarten through the college on the same campus and even sometimes in the same buildings.. Use of the same plant may mean separate entrances, different lavatories, rules which govern one set of pupils and not another, different play periods, and other adjustments, but these things are neither impossible nor undesirable.

What shall we say concerning departmental teaching, promotion by subjects, modifications in methods of discipline, changes in the curriculum, and other adjustments which are advocated for children of early adolescence? Time forbids a lengthy discussion. Doubtless you will agree that most of these changes neither demand nor imply a resegmentation of the public schools and the formation of the junior high school. They are more or less separate questions, each to be decided on its own merits. In consideration of all of these questions we must keep in mind also the principle of continuity and unity upon which we have insisted. Certainly a child in the first grade and a child in the twelfth grade need different treatment, because they are very different in important respects. But let us remember that these differences appear gradually and that nowhere do we find in reality the sudden development by leaps and bounds which certain ones have painted for us. Furthermore, school grades are but an approximation of a grouping together of pupils of similar development, training, and interests. There are much greater differences within the same grade than between the average pupils of two successive grades. Absolutely uniform treatment, the lockstep, is indefensible within the same grade, to say nothing of successive grades. We shall expect the changes from grade to grade to be as gradual as the changes in individuals.

Let us illustrate. The necessity for departmental teaching does not suddenly appear in the seventh grade. As a matter of fact, we commonly find departmental teaching in all or many of the grades in subjects such as music, drawing, home economics, and manual training. If the introduction of a full departmental plan causes a gap between the eighth and ninth grades, certainly it causes a much more serious gap between the sixth and seventh grades. The obvious solution is a *gradual* extension of the departmental plan as children grow older.

Again, the necessity for promotion by subjects becomes more acute in the upper grades but does not suddenly appear. Even in the lower grades we recognize that one, two, or three subjects are more important from the point of view of promotions than are the others. In the first grade, for example, the chief emphasis is upon reading; if a child can read well enough he may be promoted to the second grade, even though he is deficient in arithmetic, music, or drawing. I prophesy that as our understanding of individual differences grows, the differential treatment of pupils in all grades will increase in amount and effectiveness.

The curriculum offers a third example of the need for gradual rather than sudden changes in the conduct of our schools. We need to shake loose from the tradition that the secondary period demands a curriculum radically different from the period which immediately precedes. Science, for example, is not exclusively a high-school subject. The place for science is in all the grades from the first grade up. Many of the facts now taught in a ninth-grade general science course should be the common property of all our children even before they reach the seventh grade. Geometry is not an exclusively high-school subject—in fact, I doubt whether the old demonstrational geometry should be a subject at all for a large percentage of our pupils. Very promising experiments are now going forward in designing courses in mixed mathematics for the upper grades. There seems no basis other than tradition for the practice which attempts to "complete" arithmetic before beginning the study of algebra or geometry.

A final illustration of the necessity for gradual change is seen in matters of discipline. One cannot place his finger upon a point in individual development or in group development where a sudden transition has to be made from "junior" to "senior" methods of control. If persons were one day children and the next day adults, there might be some point in looking for a particular grade in which to introduce a radically different plan of control. Of course it is absurd to treat adolescents as six-year-olds and equally so to treat them as adults. I do not wonder at the vigorous protest made in one of the above quotations against jamming senior methods of control down into the junior high school. The plain fact is that "senior methods of control" should not be *suddenly* introduced anywhere. Many are the parents as well as the teachers who fail because they fail to grow up with their children—not too fast and not too slow.

In conclusion, I wish to say that I am not an opponent of the junior high school where it means needed readjustments which appear impossible to secure without such a reorganization. On the other hand, I do not want to accept it uncritically. Let us rather study the situation in any community for which we happen to be responsible and decide what must be done in the light of the particular conditions which we must meet. And in all let us keep in mind the goal, a public school system without breaks, gaps, or stops, adjusted not only to the gradually changing characteristics of groups but also to each and every individual member of these groups.

Educational Administration and Supervision
Including Teacher Training

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BOOK NOTES

PSYCHOLOGY

1. *The Psychology of Subnormal Children.* Leta S. Hollingsworth. 288 pages. New York: The Macmillan Company.

2. *Psychology for Teachers.* Daniel Wolford La Rue. 316 pages. New York: American Book Co.

3. *The Psychology of Adolescence.* Frederick Tracy. 246 pages. New York: The Macmillan Company.

4. *Psychology for Normal Schools.* Lawrence A. Averill. 362 pages. New York: Houghton Mifflin Co.

5. *Psychoanalysis and Behavior.* Andre Tridon. 354 pages. New York: Alfred A. Knopf.

1. Professor Hollingsworth concerns herself in the present volume chiefly with the problems which confront those entrusted with the schooling of subnormal children. While she offers the reader sufficient material for use in identifying and even classifying cases of subnormality, the greater part of the text considers the training that may profitably be given to mental defectives. Teachers of

special or ungraded classes have been too dependent upon texts prepared primarily for the clinician. But the present volume does not fall in this class. It goes into various types of feeble-minded just far enough to show the special teacher at what points her method of attack must be changed if her labor is not to prove entirely futile. Throughout the volume there is a comparison between the mental activities in normals and subnormals. The study concludes with a consideration of the subnormal from the administrator's standpoint through the establishment of special classes and special schools.

2. Those interested in the training of teachers recognize the importance of psychology as part of the teacher's preparation, but there may be a difference of opinion as to the amount of psychology that the average classroom teacher requires. The desirable thing, if time were not a factor, would be to give teachers the maximum, but the practical thing is to give them as much psychology as is possible under existing conditions. Dr. La Rue's *Psychology for Teachers* is a work that will serve happily in institutions where a simple, readable text is desired so as to be able to send all teachers out with at least a workable knowledge of the science. The amount of psychology that a teacher will get from following this text will not be as extensive as might be gotten from more pretentious volumes, but it will have the decided merit of functioning satisfactorily in the teacher's work. With the rural teacher in mind, apparently, the author devotes the early part of his volume to a presentation of a broad outline of psychology, and the subsequent pages are devoted to a more detailed development of much of the same material. The book is interestingly written and exceedingly well made.

3. Dr. Tracy's *Psychology of Adolescence* inaugurates a new series of manuals for teachers in the field of moral and religious education. The author makes no claim of originality for his text, but offers it as a handbook for the teacher which will give her a bird's-eye view of the conclusions hidden away from most readers in the very extensive literature covering the subject of adolescence. The book is not burdened with elaborate details and extensive tables, but for the reader the author has in mind this is a decided advantage. Not only will the text prove helpful for those interested in moral and religious education, but it is an eminently readable text for all who are concerned in any way with education.

4. Prof. Averill's *Psychology for Normal Schools* falls into the same class as Dr. La Rue's book noted above, but the volume by Dr. Averill

is designed for a more advanced type of student. The volume is constructed along the somewhat conventional lines set by its predecessors in the same field. It is arranged so as to allow a great expansion of the time the student may be required to devote to the subject through a wealth of special study suggestions and the references to the literature of the subject.

5. Andre Tridon's *Psychoanalysis and Behavior* is a work designed for the same audience that follows the writings of Haverlock Ellis. There is this difference—Ellis knows his subject thoroughly, whereas Tridon impresses chiefly as an amateur.

AGRICULTURE

1. *Agricultural Economics.* James E. Boyle. 448 pages. Philadelphia: J. B. Lippincott Co.

2. *How to Teach Agriculture.* Ashley V. Storm and Kary C. Davis. 432 pages. Philadelphia: J. B. Lippincott Co.

3. *Animal Husbandry.* John L. Tormey and Rolla C. Lawry. 351 pages. New York: American Book Co.

3. *College Botany.* Melville Thurston Cook. 392 pages. Philadelphia: J. B. Lippincott Co.

5. *Vocational Agricultural Education.* Rufus W. Stimson. 468 pages. New York; The Macmillan Co.

6. *Productive Soils.* Wilbert Walter Weir. Philadelphia: J. B. Lippincott Co.

The growing importance of agriculture as a school subject in high schools and colleges is responsible for a rapidly expanding literature covering every phase of farm management. In most instances the texts presented are well written, while the publishers seemingly give much thought to the illustrations. In fact, the pictures are featured almost as much as in texts designed for use in the grades.

1. Professor Boyle frankly admits that his *Agricultural Economics* was not written for the expert or the specialist, but for the average student of agricultural problems. He endeavors to interest the student in farm management with particular regard to its economics, and he presents typical problems confronting the farmer, and suggests their solution. Labor, machinery, marketing, transportation, accounting, and like problems that must be met by the farmer who would be practical, are instructively considered.

2. *How to Teach Agriculture* is a book of methods for the teacher of agriculture. After considering the organization and management

of the teaching of agriculture, the authors go into the method side in such subjects as agronomy, animal husbandry, dairying, horticulture, and poultry raising. The latter portion of the text is devoted to methods in teaching farm management.

3. Professors Storm and Davis, *in Animal Husbandry,* take up breeding, feeding, and caring for live stock, and the fundamental laws of science upon which these practices are based.

4. Prof. Cook's *College Botany* is a well made and profusely illustrated book, but somewhat scant on text for a volume of its size. It is concerned with the structure, physiology and economics of plants.

5. *Vocational Agricultural Education,* by Rufus W. Stimson, is the latest addition to the Macmillan Earning and Learning Series. The text is based on home projects, and should prove helpful to the teacher of agriculture as well as administrative officers having the supervision of such teaching.

6. Prof. Weir has abridged an earlier text for publication as *Productive Soils.* The present volume is an illuminating and comprehensive work dealing with the fundamentals of successful soil management and profitable drop production.

MODERN LANGUAGE

1. *Cyrano de Bergerac.* Edmond Rostand. Edited by Oscar Kuhns and Henry Ward Church. 255 pages. New York: Henry Holt & Co.

2. *Le Paris D'Aujourd'hui.* Franck Louis Schoell. 209 pages. New York: Henry Holt & Co.

3. *Gringoire.* Theodore de Banville. *LeLuthier de Cremone.* Francois Coppee. Edited by Aaron Schaffer. 191 pages. New York: Henry Holt & Co.

4. *Le Gendre de Monsieur Poirier.* Emile Augier and Jules Sandeau. 169 pages. New York: Henry Holt & Co.

5. *La Classe en Francais.* E. Gourio. 273 pages. Boston: Houghton Mifflin Co.

1. Rostand's *Cyrano de Bergerac,* fully as familiar perhaps to American playgoers as to the French, is presented in the original text for classroom use with notes in English and a vocabulary. The play itself occupies the first 170 pages of the volume. There are thirty pages of notes, presenting the background of the piece and explaining unusual expressions found in the text. There is included a comprehensive vocabulary of fifty pages.

2. In *Le Paris D'Aujourd'hui*, Dr. Schoell, who spent a year at the University of Chicago as French Visiting Professor, offers teachers and students a volume of material about the Paris of after the war. While the book will serve well as a French text, it is of particular interest because the author gives little attention to the old Paris, but presents a vivid portrait of the French capital as it is today.

3. Aaron Schaffer, of the University of Texas, has edited and included in one volume two successful French one act plays, *Gringoire* by Banville and *Le Luthier de Cremone* by Coppee.

4. Augier and Sandeau's four-act play, *Le Gendre de Monsieur Poirier*, pictures the struggle seventy years ago between the French aristocracy and the new democracy. The text is supplemented with comprehensive notes, exercises for classes in French, and a complete vocabulary.

5. *La Classe en Francais* is a beginner's book in French based on the direct method.

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EDUCATIONAL
ADMINISTRATION AND SUPERVISION
Including Teacher Training

THE TEACHER AND PARTISAN ACTIVITY

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The true relation between two things cannot be understood without first knowing what the things, themselves, are. It is, therefore, necessary to define the teacher and partisan activity before the relation which the one should bear to the other can be dealt with.

The teacher is a person employed by the whole community for the specific purpose of caring for its children in its schools; and, while nothing may be said about it in the contract, it is taken for granted and fully expected by the community that the teacher will so conduct himself at all times and in all places as to deserve, secure, and maintain the good will and confidence of the community as a whole, to the end that the lack of these things may not in any way interfere with his usefulness in what he has been employed to do. Further, just as by community is meant even the state as well as the smaller locality, so by teacher is meant even the principal or superintendent, the professor or president as well as the teacher in the special, restricted sense.

Partisan activity is active support of one side, rather than another, of a controversial question. It may be either rational or prejudiced according to whether it is either based or not based upon conclusions resulting from a fair and thoroughgoing study of all sides of the question. The discussion here is, of course, with respect to the former only, for no one, least of all a teacher, should descend to the latter, although, unhappily a great many do.

With this understanding of what is primarily expected of the teacher and of what partisan activity is, the relation of the teacher to such activity may be considered. It seems clear at the outset that what that relation should be will depend upon the effect which it has upon the work that the teacher is primarily expected to do. If partisan activity upon the part of the teacher makes that work more efficient, it is right; if it does not, it is wrong.

It is worth while to consider the different possible attitudes of a community toward a matter of public concern and, at the same time, the relation, with its consequences, of the teacher, as an active partisan, to each.

In the first place, the attitude of the community may be that of unanimous approval. This attitude would almost certainly be taken toward such things as the desirability of a system of public schools, obedience to law, freedom of religious worship, etc. In this case, where there is no controversy, the teacher can be active in a partisan way only by opposing the entire community. It is not conceivable that the teacher could array himself against all others in the community without losing, perhaps entirely, rather than in any smaller degree, the public good will and confidence upon which depends the success of the work which he is primarily expected to do. There can then be no justification of the teacher's partisan activity in this case.

In the second place, the attitude of the community may be that of unanimous disapproval. This attitude would almost certainly be taken toward such things as violent methods of political reform, the defacing and destruction of public property, vulgarity and indecency in public places, etc. Here again, where there is no controversy, the teacher can be active in a partisan way only by opposing the entire community—in this case, by advocating what the community does not want; while, in the other, by denouncing what the community does want. The teacher's partisan activity would in this case, bear the same unfortunate results as in the other and could not, therefore, be justified.

In the third place, the attitude of the community may be that of divided opinion. This attitude would almost certainly obtain in the case of such matters as the licensing of pool-rooms, Sunday base-ball, who should be elected to this or that office, paving the streets, erecting a new school building, etc. In this case, where there is controversy and where the teacher is an active partisan with one part and against another part of the community, rather than against the whole community, as in the other cases, the harmful results are of the same kind and only less in degree. In degree of harmfulness they become less and less as the teacher's activity is directed against smaller and smaller parts of the community. But as this is true, the need of the teacher to "save" the community becomes correspondingly less and less and there is thus increasingly more reason why he should not lose anything of the public good will and confidence, however little, by partisan activity. Even in this third case, there seems, then, to be no excuse for such activity upon the part of the teacher.

A typical, concrete example, from actual life, of a teacher's partisan activity in a situation where community opinion was divided will be helpful by way of showing just what the results of such activity are and whether they justify it or not.

A certain community was inflicted with a number of saloons, gambling places, and other dens of vice—all of which together with a local government, which was, to say the least, indifferent to their presence and influence, gave it a very bad moral tone and produced an environment that was anything but wholesome, especially for the younger element. The people of the community were divided into two groups—on the one hand, those who with less thought of moral values and more of mere pleasure and profit either openly favored or quietly sanctioned the objectionable places; and on the other, those who with less thought of other things and more of the moral welfare of the community were opposed to them. Both groups were represented in almost every phase of the community life, even on the school board and among the teachers and school children.

The superintendent of schools who rightly enough deplored the situation undertook to help to "clean up" the town. He openly and actively allied himself with the better element and gave his support in every way that he could—by public addresses, articles in one of the local papers, argument on the street corners and in the stores, and persuasion of his teachers and school children—to spread and intensify the sentiment against the questionable places and to further the movement to get rid of them.

The conspicuous results of the superintendent's activity were about as follows: He aroused in a greater or less degree the animosity of all—including many of his teachers and school children and some of the members of the board of education—who were upon the opposite side of the question and some of whom demanded his immediate resignation. Even a great many of those in agreement with him upon the question at issue felt that because of his position he should not take active sides and urged him to confine himself to his school work and let the vexatious community question alone. The work of the schools was very seriously disturbed by the superintendent's course of action, he lost the good will and confidence of far the greater part of the community because as it was said he didn't "know his place," and, although not asked before to resign, he failed at the end of his term to be reelected. It was apparent beyond any question that the bad effect throughout both school and community of the superintendent's conduct was so great that any possible good effect of it could not be seen.

What happened in this community through the partisan activity of the superintendent in the situation as described is surely very much like what actually happens, or may be expected to happen, in any community in any similar situation; that is, in any situation in which the question at issue is one with respect to which there is a division of community opinion. If the question in the case described had been one of changing the tax-rate or erecting a new town hall, it would have made no essential difference in the results of the superintendent's partisan activity.

It appears, then, that there is no place at all for partisan activity by the teacher. For such activity seems to be impossible without a loss in some degree of the community good will and confidence of which there cannot be too much for the sake of the efficiency of the work which the teacher is primarily expected to do.

To many, over-zealous as to the right of the teacher to do anything that any other citizen may do, this will seem to be a wrong conclusion. But it does not follow that with partisan activity denied the teacher, he shall have no relation to and responsibility for the affairs of the community. The teacher should be responsible for and related to the affairs of the community—but in a way, simply because he is a teacher, which transcends that of partisan activity.

The teacher, so far as he can be a leader in the community, should be a leader of the whole community and not of a part of it. His effort should be upon the side of leading the whole community into the right method of thinking about and deciding its problems, rather than upon the side of leading one part of the community to overcome another part to which it is opposed. It is easily conceivable that a teacher of sufficient tact and ability could be closely related to any particular community controversy, however intense it might be, and at the same time be of great service to the community as a whole without losing anything, even by gaining much, of the community good will and confidence. But to be so related to the controversy he could not be partisan—actively identified with one element and separated from others. He would rather have to stand alone, or better perhaps with all, with unbounded respect for everybody's opinion, with devotion to nothing but the truth, and with a spirit of generous and unselfish service to the whole community in bringing it through its own thought to its own decisions and to its own actions. That so few teachers can be participants of this kind in community life is no reason why the most of them should be the best that they can be—mere partisans. It is rather the decisive reason, why most teachers should let community affairs alone, so far as their activity is concerned, and pay active attention only to their school work.

It may be admitted that the heat and antagonism shown by opposing elements entertaining different opinions with respect to matters of public concern ought not to be. Quite true, they ought not to be but they actually do exist and must do so while human nature is what it is. The fact that they, unquestioned evils, ought not to be, does not justify a teacher's participation in a heated and antagonistic community situation, which participation, judged by its results is, as we have seen, but another unquestioned evil. One bad thing does not excuse or justify another bad thing.

If the time ever came when differences of opinion in a community would not be accompanied by heat and antagonism, when all questions would be thought out, all decisions made, and all actions performed without such emotional accompaniment, then the harmful results heretofore mentioned of a teacher's partisan activity might no longer accrue and, so far as they are concerned, there might no longer be any objection to urge against such activity. But such a millenium-like condition of affairs is hardly for this world and the partisan activity of a teacher which might work well in it will not work well here and now with human life what it actually is. It is even conceivable that in such an idealistic condition of affairs, there would be no such thing as partisan activity as here considered, but only such highminded and disinterested leadership upon the part of everybody as is above held up as the ideal for the teacher in the community as it actually is.

In conclusion, partisan activity may be considered not merely as voluntary upon the part of the teacher but also as urged upon him by one or the other of the opposing elements about him. A teacher is sometimes so situated that, if he does not actively ally himself with some partisan movement, he will become the object of attack with the efficiency of his proper work as much disturbed as it would be, if he were attacked for being voluntarily active in a partisan way. Such a situation may be exceedingly trying for the teacher and call for a corresponding amount of self-control, courage, and loyalty to principle. A teacher lacking these qualities in such a situation will not be loyal to what he believes to be right but out of expediency, out of fear of loss of position, or through some such consideration will surrender to influences that are wrong.

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COMPARATIVE SCORING AND RECORDING OF EDUCATIONAL TESTS

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This article presents a comparable method of computing and recording standard test results. Of the large number of educational tests on the market there are a considerable number that are sufficiently well organized and standardized to be worthy of use. Each test, however, uses a system of scoring entirely separate and distinct from any other. The score in any of these tests is not comparable to the score in any other. It is the purpose of this article to suggest a method, extremely simple, whereby these scores can be made comparable, and to further suggest possible uses of these comparable scores together with forms for their permanent record and efficient administration.

Tests are worthless and the time and money spent in their formulation and presentation is wasted unless use is made of the results. In order to use these results they must be expressed in a manner easily understood not only by the teachers but by those for whom and through whom improvement is to be made, namely the children. In presenting the results of a series of tests covering the work of their grade to a group of children these results do not mean much to them if they are told that in test *x* their score was 6.5, in test *y*—7.75, in test *z*—3.66, test *a*—28.8, test *b*—285, test *c*—133.2, etc., through a series of say 69 separate scores. These are actual scores taken from tests given to a group of children. If, however, one can combine these 69 scores into one figure and say to the group, "In all your work over which we have been having these tests you are 98.36 per cent of where you should be at this time of the year," the children as well as the teachers would have a figure which would mean something to them. Such a statement as the above is perfectly possible and its correctness defensible. Not only this but the final figure having been given it is then possible to take component parts of same and show by means of percentages and graphs exactly where the group is weak and where strong, not only in what subject but in what aspect of what subject so far as the tests go, and to make this diagnosis of the group condition not in any vague terms but in definite and understandable figures showing concretely how much they need to come up in this and how much relatively they can let up on the other.

This in brief is one advantage of a percentage system of formulating test results. To illustrate an actual case might be taken. The tests given in this grade were: in Arithmetic, Courtis and Monroe Diagnostic; in reading, Courtis, Monroe, and Greene; in spelling Iowa sentence and list; in geography Courtis location; and in handwriting, Ayres. All of these tests are standardized for this grade except the geography. Unstandardized results cannot be used. The grade's median scores in these subjects was 98.36 per cent of the standards. In order to make a diagnosis of the grade's condition in the various subjects it is necessary to look back over the subject scores. The results from 69 separate scores and these are as follows:

Silent Reading	118.2
Greene's Organization	112.59
Spelling	99.625
Handwriting	80.9
Arithmetic	80.5

This is shown graphically on Chart I.

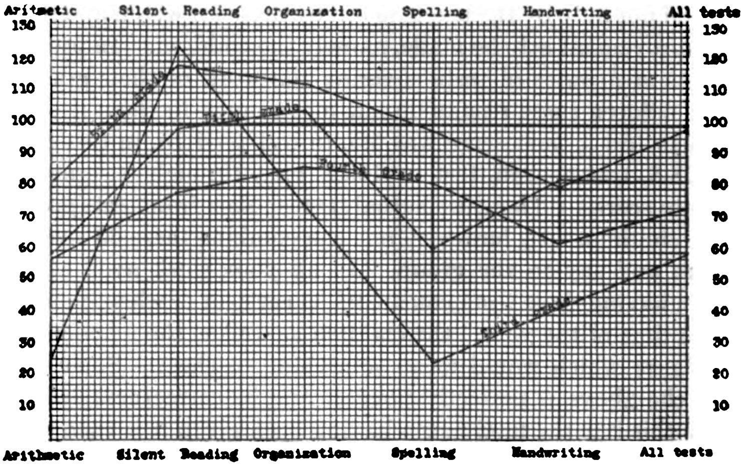
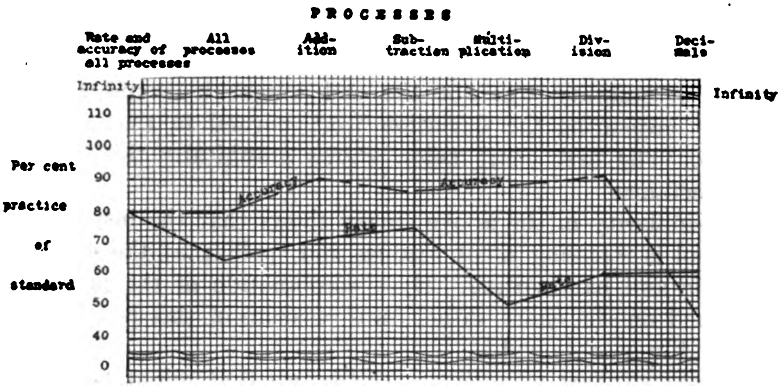


Chart I.

Bearing in mind that 100 here means standard it would seem that Arithmetic and handwriting are of these five subjects the two that should receive the emphasis between the time these results are published and the next testing period. Carrying the diagnosis further, in what phase or phases of Arithmetic are the children weak? It is very possible that this low score of 80.5 is due to weakness in but one process. It would be an immense waste of time in that case to give additional drill to all processes equally in the attempt to come up to standard. Looking back over the process scores in Arithmetic we find them as follows:

Addition	81.2
Subtraction	80.6
Division	75.9
Multiplication	70.04
Decimals	51.3

This is shown graphically on Chart II.



* For a 6th Grade in a university elementary school. Test made first week of school in September.

CHART II.

Bearing in mind that score for arithmetic as a subject was 80.5 it would seem that decimals, multiplication, and division should receive the major emphasis in the relative order as named. Carrying the diagnosis still further, in what phase or phases of these processes are the children weak? Is it slowness or inaccuracy or both that should be drilled against in decimals, in multiplication, and in division. Looking back over the phase scores of these three processes we find:

Decimals	accuracy	47.3	rate	61.5
Multiplication	rate	51.2	accuracy	88.5
Division	rate	60.7	accuracy	91.05

Bearing in mind the three process scores these figures immediately show that the major portion of drill should be spent in decimals for accuracy, in multiplication for speed, and in division for speed.

This illustration from an actual situation perhaps makes more vivid the suggestion as to diagnostic possibilities for the percentage system. The combinational possibilities are even more advantageous. The combination of all scores for a given group is a suggestion of these possibilities. Other combinations, that might under various conditions be profitable are all groups in a given grade, all grades in a given school, all schools in a system, all subjects in all grades in a system, and so on. The last mentioned combination, namely that of all subjects in a system possesses possibilities for administrative guidance that are perhaps worthy of note. Educational theories come and go. Supervisors or administrators become enthusiastic now about one subject or phase of instruction and now about another. The use of such a combination suggested would provide an educational stabilizer, or if stability was not the end sought it would furnish a means of measuring the deviation from normal in that particular situation. The first chart below shows graphically this use in an actual instance.

The similarity in the above curves shows that the instruction in this school is stressing silent reading and spelling at the expense of arithmetic and handwriting. By a combination of the percentages represented on the chart an accurate measure of this relative stress could readily be obtained.

The above chart also illustrates the use that might be made of comparative figures and graphs based upon them in group rivalry, as well as in showing the situation relative to an abstract ideal. This is true not only in the grade situation as a whole but in the situation within each subject. The fact that grade four is but 73.64 per cent efficient while its neighbor grade five is 82.25 per cent will tend to have a very beneficial affect upon grade four, which can be greatly enhanced by the proper use of materials for presentation by the teacher. Grade five can do well to exert itself toward the mark attained by grade six, which was mentioned above.

Whether the audience be children or adults well planned graphic presentation of facts aids materially. The scores used make their construction a matter of no great difficulty. In fact all but the lower grades could well make their own. Chart one shown above is an illustration of a summary chart for several grades. Each grade could for its own use build a similar one covering only its own work. Then taking each subject a diagnostic chart could be built such as is illustrated by the one following, Chart II. Such charts would certainly be useful in the low subjects.

All in all the possibilities presented by the use of this simple method of translating scores of standardized educational tests seem to be very great. For ease in recording and availability of records the following form is suggested. This should be printed or mimeographed on 8½ by 11 paper or index stock and filed in a card index system. The time consumed by recording and in the use of records will, it is believed, be materially lessened by the use of this form as well as the value of the records themselves be somewhat enhanced by means of their convenient consecutive arrangement. The per cent M. of standard column can be readily figured from the two preceding columns with very little loss of time by the use of a slide rule.

Form_____
Grade 6th
Subject Arithmetic
Test Courtis Factor Rate

Date	Process	Standard	September		January		June	
			Median	Per cent M. of Standard	Median	Per cent M. of Standard	Median	Per cent M. of Standard
1920–21	Addition	10	6.5	65				
1921–22								
1922–23								
1923–24								
1924–25								
1920–21	Subtraction	11	7.75	70.5				
		etc.	same	repeat	ed			

At the end of each phase of each subject, at the end of each subject, each grade, each school, etc., summaries are made on the following form. The standard number of points is equal to the possible number obtainable assuming that the score in each test was 100 per cent. The median number of points is the number actually obtained in all tests.

Form_____

Grade, school, or subject, 6th Arithmetic

Summary

Factor Rate

Date	Process	Standard number of points	September		January		June	
			Median	Per cent M. of Standard	Median	Per cent M. of Standard	Median	Per cent M. of Standard
1920–21	All	2,400	1,537.1	65.5				
1921–22								
1922–23								
1923–24								
1924–25								
1920–21	Addition	600	435.3	71.15				
		etc.,	same fo	r each p	rocess			

In the general summaries the heading of the column process must be changed. The general summary of the 6th grade for instance this column is headed *Subject* and contains the names of the various subjects tested and the final caption *All.* As an illustration the final entry for this grade reads, 1920–21 in all subjects, standard number of points 500, median obtained 491.81, score therefore 98.36. In the general summary for the six grades the column heading would read Grade, etc., etc.

It will be seen that these forms are made out on the assumption of a tri-yearly use of standard tests. This may readily be changed to once or twice a year. If, however, standard tests are to be used as any adequate guide to and measure of progress, five months between measures would not seem too short a unit of time. By the use of this or similar systems of recording tri-yearly tests by a number of schools for a few years there could soon be built up tri-yearly standards to replace the present very inadequate yearly standards. In any intensive use of the tests such standards are necessary.

These forms are, it is hoped, at least suggestive. Their use it is believed will entail no considerable amount of labor comparable with their benefits and it is believed that they or forms based on the same principle will afford the possibility of greatly enhanced usefulness for standardized test results.

THREE REFINEMENTS OF METHOD IN SCHOOL SURVEYS

FLORENTINO CAYCO AND SIDNEY L. PRESSEY

I. Difficulties in the Usual Methods of School Appraisal

Three methods of investigating the teaching situation in a school or school system are now commonly used. (1) The age-grade distribution may be studied, and the school judged according as the per cents of retardation and acceleration are in accordance with present standards of promotion. (2) Tests of achievement in the various school subjects may be given, and the efficiency of a school or school system expressed in terms of the standing of these children in their school work as shown by scores on these tests. (3) Intelligence tests may be given and the school judged according as the "pupil material" is good or poor, and according as there are few marked discrepancies between mental age and grade placement. It is the purpose of the present paper to point out, very briefly indeed, the inadequacy of any one of these methods by itself, and the need for expressing the total situation in terms of the relation among these various measures if the situation is to be properly understood.

II. Materials and Methods

The results to be presented were obtained from the first three grades of a small city school system; in all, 706 children were dealt with. (*a*) These children were first given a brief group scale of general intelligence.[1] (*b*) The children in the second grade were also given a brief examination for investigating the fundamental achievement of this grade; the examination included tests in spelling and arithmetic and two tests in phases of silent reading.[2] (*c*) An age-grade table, for all the children in these first three grades, was also made. The paper has to do with the interrelations between these three sets of data.

Three points will be discussed. (1) It will be argued that instead of the age-grade table, the relationship between ability and grade-placement should be studied. (2) It will be urged that evenness and proper proportion in the teaching—an even development in all the subjects taught—is to be considered, in using tests of achievement, quite as much as standing on a given subject or total achievement in all subjects. Finally, (3) it will be suggested that investigation should not merely cover "pupil material" or accuracy of grade or section placement according to ability; achievement in proportion to ability *within* each class—the extent to which the teacher is obtaining from each child the best work of which that child is capable—should also be studied. These three points will be taken up in order. No attempt will be made to compare this school system with other school systems. Instead, the typical supervisory problem will be discussed; the effort will be to evaluate comparatively the work of the three ward schools of the city surveyed. The three schools will, for convenience, be called Schools A, B, and C. In School A, there were 162 pupils in the first three grades; in school B, 286 pupils in these grades; and in school C, 247 pupils.

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[1] Pressey, L. W.: A Group Scale of Intelligence for Use in the First Three Grades. *Journal of Educational Psychology.* Vol. X, September, 1919.

[2] Pressey, L. W. Scale of Attainment No. 1—An Examination of Achievement in the Second Grade. *Journal of Educational Research,* September, 1920.

III. Results

1. First with regard to use of the age-grade table. Comparison of retardation (reckoned in the usual way), for the first three grades, shows school A to have 28 per cent, school B, 26 per cent, and school C, 36 per cent of its children retarded.[1] It might seem, on the basis of these per cents, that school A was the best school, since it is moving its children along most rapidly—or at least, has fewer cases of marked educational failure.

A little further study of the situation reveals facts which put a very different light on the matter, however. If the children are grouped accurately according to grade, it should be expected that the children in the second grade would all be older mentally than the children in the first, the children in the third grade more mature and capable than those in the second grade. The question is as to what extent each school puts its children in the grade where they belong. In order to study this the relationship between grade placement and intelligence (as measured by the group scale mentioned above) was investigated.

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[1] It should be mentioned that retardation and acceleration were calculated simply from an age-grade tabulation made directly from the test blanks. That is, the age-grade tabulation was made using age at last birthday and on the basis of age at time of examination. The per cents of retardation and acceleration are not, then, comparable with the usual figures regarding age-grade situations. But they would appear perfectly satisfactory for the purpose for which they are here used—for the purpose of comparing the three schools in this one system.

It was found that the correlation between ability and grade was only 0.63 for School A as compared with 0.77 for School B, and 0.75 for School C. These coefficients at once suggest that School A is not using proper discrimination—may very likely be moving its children along primarily with reference to their chronological age. Study of grade placement with reference to chronological age bears out this assumption very definitely. Correlation between chronological age (in years) and grade placement in terms of half grades, for the first three grades, gives a coefficient of 0.81 for School A, 0.70 for School B, and 0.68 for School C. It appears demonstrated that School A is promoting on the basis of age rather than ability. And it appears also that mere statement of retardation is decidedly inadequate in presenting the entire situation; in the present instance the apparent order of merit of the schools is largely reversed when the situation is further studied by the method the writers have suggested.

2. Beside investigating the age-grade situation, the superintendent may give tests in one or more subjects in which he is especially interested, and evaluate the schools according as they have high or low medians in these subjects. It should be obvious, however, that, for an adequate perspective on the situation, investigation in *all* the fundamental subjects is essential. As the result, a number of examinations aiming at measurement in all the fundamental school subjects have recently appeared. And it is at last possible for a superintendent to investigate, systematically, progress in all the fundamental subjects in the grades.[1] The writers wish to point out, however, that the total on such an examination does not tell the whole story with regard to teaching efficiency. Not merely a high total achievement, but evenness of development is desirable; it is more important that a child should be reasonably well fitted for the work in the next grade in each subject than that he should be overprepared in one subject and not fitted for promotion in another. This is the situation, at least, as long as the grade organization is adhered to. And the

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[1] Perhaps the achievement examination of Professor Pintner is the best piece of work in this direction so far (See Pintner, Rudolph. A Combined Examination for Measuring Intelligence and Achievement. *Journal of Educational Psychology*, January, 1921; the general principle of the examination was first presented in Professor Pintner's very important little book, "The Mental Survey," Appleton's, 1918).

Scale of Attainment No. 1 is an example of a more intensive piece of work of the same type; analogous examinations have also been issued for the third and eighth grades.

question is as to whether some measure, of the extent to which a given school properly proportions its teaching emphasis, may not be obtained.[1]

The method finally adopted was very simple. It consisted simply in going over the "attainment scale" blanks and finding the difference between the highest and the lowest score made by each child. This difference was called the "irregularity." Thus, (to take an extreme instance) if a child made a perfect score on the spelling test—24 points—and a zero score on arithmetic, his irregularity would be 24. Such a figure evidently gives a rough measure of the evenness of development of a child in his school work.[2] Such irregularities were found for the 2B grade and the schools compared as to evenness of the teaching from subject to subject. It was found that School A showed 66 per cent above the median for the entire city, in irregularity, School B, 50 per cent and School C, 44 per cent. There would, then, appear to be a certain lack of proper proportioning in the different subjects in School A. And it is surely important that this fact should be taken account of, and be given consideration in framing suggestions for improvement.

3. Total score on Scale of Attainment No. 1 shows School A to have 25 per cent of its 2B children above the median for the city, in the fundamental work of the second grade, School B, 56 per cent and School C, 55 per cent. A few years ago, such comparison would have stopped with these findings, and it would have been inferred that the teachers of School A were an exceedingly inefficient lot. Now it is coming to be generally recognized that one must not judge a teacher without knowing what kind of "pupil material" she has to work with; if her children are all dull, even the best teacher cannot advance them in their work as rapidly as might be desirable. It is, then, at once

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[1] Some striking irregularities appear even in group averages. Thus the comparison of the 2B classes, in their standing on the separate tests of Attainment Scale No. 1, show 48 per cent of the children in School A, in addition, as compared with 35 per cent in School B, and 59 per cent in School C, above the median for the entire system. On the other hand, School A shows only 21 per cent above the median in spelling, as compared to 56 per cent in School B and 46 per cent in School C.

[2] The method is decidedly rough, of course, and not, under most circumstances, legitimate. In the present instance, when the results on the two reading tests were averaged and the arithmetic treated in the same way (as is required in obtaining total score on the examination), it was found that the median scores on the different subjects, and the distributions of scores also, were similar enough to permit such rough handling. Strictly speaking, conversion to percentile rank, or other statement in terms of the distribution in each test, would have been desirable.

necessary, when such contrasts in school work appear, to look for contrasts in "pupil material." And it appears that in standing on the group scale for measuring general intelligence also, School A shows the lowest rating; 38 per cent of the 2B children in School A are above the median for the city as a whole, as compared with 68 per cent for School B and 39 per cent for School C. We have evidence here again, to be sure, of less efficient teaching in School A as compared with School C; the School C teachers have brought children with "39 per cent ability" up to "55 per cent achievement." However, the low score of School A is not only important feature of the teaching in the school. Further light on the situation is shed by correlation of ability (score on intelligence tests) with total school acheivement (total attainment scale score) in these classes. The correlation between attainment and ability in School A was found to be 0.30, as compared with correlations of 0.41 and 0.48 for Schools B and C respectively. School A thus not only has the lowest standard in the school subjects; this school is also most deficient in the extent to which it is developing each child according to his ability.

IV. NEED FOR A BROADER APPROACH, IN INVESTIGATING EDUCATIONAL EFFICIENCY

So much, then, for the above data—which are certainly not so adequate as might be desired; they surely reveal details of the educational problem in these three schools, which would have been overlooked otherwise, however. The special problem presented by School A stands out strikingly. There also stands out the really excellent work which School C is doing in spite of its poor "pupil material." A total educational situation of decided interest, in these three ward schools, is outlined.

Perhaps the reader may feel that the data are hardly adequate for actual use by the school system concerned, as a basis for practical action. To a large extent this is true. But the findings will serve at least to illustrate the three points mentioned at the beginning of the paper. It was there urged that one should consider (1) not merely the age-grade situation, but the accuracy of the classification according to ability, (2) not merely the standing in a single subject or total standing in all the subjects, but consistency of performance from subject to subject, (3) not merely total attainment in school work, but rather the attainment of *each child* as related to his ability. Only by such a broad approach (it would seem) could an educational situation be appraised in anything like its entirety, or an adequate perspective for judgement of that situation be obtained.

SUMMARY

The paper aims to point out the inadequacy, as means for investigating the educational efficiency of a school or school system, of (*a*) statements of retardation, or other summaries of the age-grade distribution, (*b*) measurement of achievement without reference to evenness of development, or (*c*) measurement of ability without detailed statement of the correlation between ability and achievement in individual cases. It is shown that:

1. Not an age-grade table, but rather an "ability-grade table" is needed.
2. Not merely attainment in a single subject or total attainment, but evenness of development in all the subjects, should be considered.
3. Not merely total success in school work, but rather the extent to which each child achieves in proportion to his ability, should be investigated.

TEACHING TEACHERS TO "MOTIVATE"

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Educational literature contains many contexts in which use of the word "motivation" is not entirley happy. It savors of pedagese. Educational propagandists and advertisers of project method textbooks have rendered it synonymous with "selling" instruction to a pupil who takes his chances of being "sold." When used loosely to cover an educational process, the term is inadequate because it conveys nothing as to the character of motives supplied nor as to the value of the activities motivated. Yet its more technical use to designate a psychological function of all good methods is justified for the reason that it does exclude these questions of relative values. Such justification should apply to its use in the following pages.

What follows is an attempt to describe the aim, content, organization, and results of a semester course in "motivation" as conducted experimentally by the Education department of an arts-and-science college under the title, "Educational Psychology." The aim assumes that courses in educational psychology are valuable in so far as they assist teachers to discover pupil-controls and to use them to obtain desired responses; otherwise there is no good reason for offering such a course in a small college where "pure" psychology is well taught. This thesis will neither be defended not excused. The content of the course was based largely on the results of a study pending publication[1] which sought to classify and evaluate the common varieties of adolescent interest. The organization of work was such as should apportion the time about equally to discussion of various controls, practice in their uses, and estimate of results. The course was limited to ten juniors, most of whom had completed courses in general psychology, and practice was obtained by teaching the other members of the class. The results of the experiment while as yet untested were such as to encourage repetition of the course and to reveal many faults for correction.

Some account of the local situation may help to explain the *aim* of the course more fully. The prospective high-school teachers concerned fail as a rule to recognize the importance of organizing material with reference to pupil response and have neither sufficient time nor sufficient assurance to experiment with motivating devices as such in the course of their practice teaching. For this situation there are several good reasons. In the first place there is often lacking the *desire* to "psychologize" material. The particular topic whose importance to the teacher is so obvious in the light of his wider study, seems to require no justification in terms of pupil experience. Furthermore, the student is usually "majoring" in the subject he teaches in high school. His preoccupation with the collegiate organization of material makes its reorganization for the high-school pupil increasingly difficult. To violate logical organization of subject matter in order to psychologize it, in the case of biology for example, is apparently to counteract habits of logical thinking upon which his success in college courses depends. In a normal school this difficulty would doubtless be overcome by the closer correlation between subject matter and methods courses. If the college student is led to appreciate the fact that his own responses determine in part the scope of his college courses, he should more willingly adjust his own subject to the response of younger pupils. The final reason for failure to secure pupil response is sheer ignorance of technique. Fortified by the example of veteran teachers observed, the student teacher is wont to refer such response as he gets to his own "personality" or to the pupils' abilities, both believed to lie beyond his control. It is therefore important that the teacher's own ability to secure adequate and appropriate responses by conscious selection of stimuli be proved to his complete satisfaction. As implied above, the students for whom the course was planned do not find this proof in psychology, practice teaching, or other courses offered.

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[1] In the *Journal of Educational Psychology*, Sept.–Dec., 1920: An Approach to the Synthetic Study of Interest in Education.

The general *content* of the course may be suggested by the following topics:

I. Principles of motivation, with particular reference to high school pupils.
II. Technique of motivation, including:
    (*a*) Practice with selected controls;
    (*b*) Selection of controls for specific aims by
        1. Group diagnosis,
        2. Individual diagnosis.
III. Measurement or estimate of results.

Each of these topics will receive brief comment with somewhat greater attention to the first.

1. Such principles of motivation as were necessary to guide the practice work were developed inductively, since no single treatment could be found entirely satisfactory in its application to high-school

conditions. Selection was therefore made from the sources consulted in the study referred to above[1] to define characteristics of adoloscent interest as these appear respectively in the fields of physiological, genetic, and social psychology. For proper orientation, this intensive study of the affective process was supplemented by rapid reading of Colvin's *The Learning Process* and Colvin and Bagley's *Human Behavior*. Each student reported orally, according to a fixed schedule, upon the sources assigned. His problem was to formulate the principle involved and make it entirely comprehenesible to the class. Among this principles thus developed were the following:

(*a*) No learning is possible except through activity.

(*b*) All activity results from conscious interest (purpose) or from unconscious interest (simple conditioned reflex).

(*c*) The value of learning depends on the social utility of the purpose.

(*d*) The rate of learning depends on effort to accomplish the purpose.

(*e*) Effort depends on intensity of interest and on resistances to be overcome.

From such primary concepts as these the class drew certain conclusions with regard to teaching methods. The following are typical:

(*a*) The teacher's first task is to form or discover such purposes in the pupil's social activity as can be directly furthered by instruction in the particular high-school subject; *e.g.* vocational, aesthetic, intellectual, social, athletic, domestic and other interests related to specific subject matter.

(*b*) The educational value of such purposes depends upon the intensity of interest or force of habit behind such purpose.

(*c*) For best results intensity of interest should be neither too high nor too low. Where possible, it should be regulated by increasing resistance to prevent worry and introversion or by decreasing resistance to prevent indifference.

(*d*) All purposes are determined by interest. Hence effective motivation consists in the appeal to appropriate type of interest.

Growing out of the last statement, a study was made of various familiar classifications of interest, most of which resemble closely the original Herbartian scheme.[1] These classifications were summarized and modified with particular reference to the interests of secondary school ages. At the risk of over-condensation this summary may be presented as follows:

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[1] While it is difficult to suggest the nature of this bibliography by citation, the following ten references are important: J. M. Baldwin: "Mental Develpement, Social and Ethical Interpretations," "Thought and Things III;" K. Groos "The Play of Man;" M. W. Keatinge: "Suggestion to Education" E. A. Kirkpatrick: Genetic Psychology; J. Lee: "Play of Education;" H. Marot: "Creative Impulse in Industry;" W. McDougall: "Introduction to Social Psychology, Psychological Psychology;" W. Mitchell: "Structure and Growth of the Mind;" M. Nicoll: "Dream Psychology;" Th. Ribot: "Psychology of Attention:" G. Wallas: "Human Nature and Politics."

(*a*) Types of interest may be roughly distinguished by types of playful activity in which the instinctive elements of interest find freest expression. These types are three: playful use of sensory processes (feelings), of motor processes (actions), and of intellectual processes (thoughts). It is important to note that these processes are never entirely distinct.

(*b*) Types of interest corresponding to these activities may be termed, respectively, intrinsic, practical, and intellectual. *Intrinsic* interest seeks various forms of sensory gratification and responds to situations involving novelty, contrast (as in humor), movement, sympathy in its many aspects, and all forms of personal satisfaction, *e.g.*, feelings of superiority, etc.

Practical interest derives from intrinsic interest and seeks in general to overcome obstacles that prevent the satisfaction of intrinsic interest. Practical interest responds to situations involving pursuit, imitation, rivalry, and other opportunities for achievement.

Intellectual interest in a problem seeks practical solution of the difficulty and responds to situations involving expectancy, recognition, curiosity, experiment, judgment, and reason.

(*c*) Purposes leading to the desired school activity may be motivated by appropriate interests in the particular lesson: *e.g.*, the purpose to feel, by sympathy; the purpose to act, by imitation; and the purpose to think, by curiosity.

(*d*) Whenever possible, the teaching situation should include as many varieties of interest as possible in order that the greatest number of products may result; *e.g.*, feelings, ideals, etc., from intrinsic interest; skills, habits, "powers," etc., from practical interest; and suggestive ideas, etc., from intellectual interest.

2. The above summary of principles derived from the sources mentioned should of course be relieved by copious illustration did space permit. If sufficiently intelligible, enough of the data has been outlined to suggest the wealth of possible application to high school instruction and to indicate the procedure employed in practicing the various controls upon other members of the class.

The practice exercises assigned were of two types. The first consisted in the demonstration by individual students of specific controls, both the necessary material and suggestions as to method being supplied by the instructor. For example, prospective teachers of English read selections or related anecdotes designed to create a strong intrinsic or emotional interest by various appeals to sympathy, humor, etc.; teachers of mathematics, by demonstration of the slide-rule, "magic-square" tables, etc., sought to arouse practical interest through imitation; teachers of history by description of unfamiliar and often unlovely social conditions sought to arouse intellectual interest in community welfare through curiosity. In the informal group discussion, particular attention was given to classroom manner and votes were taken as to the degree of response obtained. In the second type of exercise the students were assigned a particular activity to be motivated and were required to select their own procedure. For further example, a teacher of English, in the attempt to motivate careful revision of manuscript, gave historical instances of typographical errors involving serious consequences, which were intended to arouse intrinsic interest in the situation; distributed copies of uncorrected themes and started a competition to detect the greatest number of mistakes, which aroused practical interest; and submitted photostat prints of original manuscripts by Owen Wister, Dickens, Thackeray, Addison, Pope et al. to illustrate the amount of revision made in the first draft by men who could well afford to be careless,—this to arouse intellectual interest through curiosity. As emphasizing the limitations of such formal procedure, attention was constantly directed toward diagnosis of the individual case. Analysis of the response secured was not carried beyond the limits of practical value. In other words no effort was made to identify interest-factors such as imitation, novelty, and the like, unless stimuli for their appropriate expression were available. To assist this diagnosis of group interest the Rugg rating scale for high-school students and similar devices were carefully studied.

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[1] *E.g.* J. Dewey: "Interest and Effort" Chap. IV; C. R. Henderson: "Principle of Education." P. 389; W. H. Kilpatrick: "*N. E. A.* Proceedings," 1918. Pp. 528ff; W. McDougall: "Introd. to Social Psycology." P. 26; W. Mitchell: "Structure and Growth of the Mind." P. 69; P. Sandiford: "Mental and Physical Life of School Children." P. 224; J. Welton: "Psychology of Education." P. 198.

3. The third division of the work was concerned with measurement of results. Some sixteen of the best standardized high-school tests and scales for achievement and diagnosis in English (silent reading, composition, grammar, spelling), Latin, algebra, geometry, modern language, science, and history were reviewed by teachers of these subjects and reported to the class. These reports emphasized such features of the tests and scales as might be best approximated in class quizzes of the teacher's own construction. The general plan of combined thought, character, and information questions as employed

in the Van Wagenen History Scale and others was judged superior for this purpose. While far from complete the consideration of standardized tests from this angle doubtless helped to prevent the assumption that the satisfactory response of a class is of any value in and of itself.

In this connection some reference should be made to the class ratings of individual demonstrations. The class "instruction sheet" required each member after the second practice exercise to devise as objective a test as possible to determine to what extent his aim had been reached. It was perhaps unfortunate that at the outset the class discussion prevented the giving of such tests and accordingly none were prepared. It is doubtful however if much would have been gained by such testing of classmates and certain that much was gained by group discussion of individual performances. Each performance was analysed for strong and weak points of organisation and presentation, and rated against other performances with allowance made for difficulty of aim. The judgments together with the instructor's comments were recorded.

Little remains to be said regarding the *organization* of the course. The ten juniors admitted (six women and four men) were majors in the following subjects: two in English, two in modern language, one in mathematics, two in history, two in science, one in Latin. Approximately six weeks of three hours each were devoted to the three divisions of the work as described above. In the introductory study of data, individuals were assigned to report upon different sources so that principles might be derived from a wide scope of material. In the second division each student gave two demonstrations. Each averaged thirty minutes and was followed by discussion. Approximately the same time was given to the individual reports upon tests in the third division. Outside work was confined to reading and preparation of reports upon source material, organization of material for class demonstration, and study of and report upon tests. The final examination of two hours was conducted orally. Sheets were distributed in advance containing ten principles of motivation stated in abstract terms. For each of these the students were required to supply concrete illustrations from school procedure. These topics were then drawn by lot at the examination and each student was allowed ten minutes in which to develop the topic drawn.

In conclusion, the more obvious *results* of the experiment as a whole may be summarized. Measurement of the effect of the training upon individual teaching ability is of course difficult without systematic use of rating scales both before and after training. Since the members of the course had never taught and will not teach till the following semester, no such records could be made. What follows is merely opinion.

UNDESIRABLE FEATURES OF THE COURSE INCLUDE

1. The members' inexperience with teaching conditions and pupil reactions. Except for some ten high-school observations in a previous Education course this inexperience was complete. The condition could scarcely be remedied unless the course paralleled practice teaching. This would cause serious administrative difficulties.
2. The superior qualifications of the students admitted. In general it may be said that the members capable of making correct applications of the principles are least likely to fail without this sort of practice. Pending more effective organization of the material in advance, none but the best students could manage the assignments.
3. The lack of demonstration by skilled teachers to guide the practice work. Time did not allow for such demonstration and practice by the students. Of the two the latter was preferable, but model lessons should certainly have been observed.
4. Loss of time at various stages in the course on account of its experimental character. Closer time economy should result when the course is repeated from more effective planning of the daily program.
5. Failure on the part of the less gifted but more conscientious members to see the limitations of the formal outline. While largely safeguarded by the discussion of results, there is ever danger that the motivating process may be mechanized.

AMONG THE ASSURED VALUES OF SUCH TRAINING MAY BE MENTIONED

1. The clear recognition by all students of the necessity for psychological organization of material.
2. The improvement of half the class in ability to organize material psychologically.
3. The awareness of pupil differences (both group and individual) by which the teacher can profit greatly.
4. Greater respect for principles of general behavior-psychology and professional literature in general as an aid to teaching method when checked by measurement of results.

5. The confidence in his eventual ability to "develop" a lesson satisfactorily which the student acquires who has learned the value and something of the method of effective lesson preparation.

Most of these ten students will probably register for practice teaching next semester. If proper allowance can be made for somewhat superior abilities, the success of this group in practice teaching should be interesting as compared with the success of about the same number of students without this special training.

SUGGESTED RULES FOR SPECIAL CLASSES

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The following rules and regulations were prepared by the writer for State Superintendent of Schools, Sam Baker of Missouri, and adopted by him in their entirety. The legislation dealing with defective children was prepared by the writer for the Missouri Children's Code Commission during the period from 1915 to 1921. The writer has received many requests during the last half decade for a brief statement of essentials regarding the organization of various special classes. It is believed that these regulations will provide such essentials, and will be welcomed by workers in other states than Missouri in which plans are being formulated for the special training of various types of defective school children.

General Rules and Regulations Applying to Special Public School Classes for Deaf, Blind, Feeble-minded, Backward, Crippled and Speech Defective Children

Under the laws enacted by the legislature of Missouri in 1919 and 1921, school districts are required to establish special classes for blind, deaf, feeble-minded and crippled children when there are ten or more of each type in a given school district; and to provide speech corrective training, but not necessarily in special classes, for speech defectives when there are 50 or more in any school district. When the number is less than as above indicated two or more adjoining school districts may contract with each other for the joint maintenance of a class, provided the pupils cannot be accommodated in the appropriate state institution. Boards of education are required to "ascertain annually the number of children in a district who belong to any of the above types;" to furnish transportation to and from school for such of these children "as could not otherwise attend," and to provide instruction adapted to the "varying physical and mental capacities and handicaps of the children" "under the regulations of the state department of education." Each school district shall "receive state aid to the amount of $750.00 per annum for each teacher employed wholly in the instruction of the pupils of the aforesaid classes," provided this amount does not exceed two-thirds of the salary paid by the local board, provided the teacher has been especially trained for the particular type of child she has been employed to teach, and provided the classes have been approved by the state superintendent of schools.

The above provisions apply to classes which school boards may establish for twenty or more children who are very backward in intelligence but not feeble-minded, except that the boards are not required to furnish free transportation for such pupils, while the amount of state aid is only $300 per annum for each teacher.

Conditions for Receiving State Aid.—In order to receive state aid, the special classes for defectives must be so conducted as to comply with the regulations here established with regard to the admission and discharge of pupils, the qualifications of the teachers, the methods of instruction and the supplies and equipment needed to make it possible to effectively offer the recommended types of training. State aid is restricted to instruction below the high school level.

Notice concerning the number of teachers for which state aid will be requested should be sent to the state superintendent of schools before August first of each year.

Qualifications, in General, of Teachers in All Kinds of Special Classes. The required preliminary training for certified teachers in all of the types of special classes is at least a two year's course in a standard normal school or college, and, in addition, not less than eight semester hours' credit[1] in courses especially designed to prepare them for the particular type of work which they would do. They should be vitally interested in the particular class of defectives they are teaching, be resourceful, adaptable, and able to get away from the routine methods of mass instruction.

Admission and Discharge of Pupils.—No pupils should be admitted to these classes who have not been certified by the local superintendent or by the official in charge of the examination and placement of pupils in special classes, as the result of a proper physical or psycho-educational examination, or both. Effort should always be made to secure appropriate remedial treatment for children suffering from defects, disorders or diseases. Records should be kept in the proper department of all examinations, findings, assignments, and treatments.

Discharge of Pupils.—No pupil should be discharged from a special class except upon the action of the local superintendent, or an official designated by him. No pupil should be retained in a special class whose condition has been remedied or has been so improved that he can successfully cope with the work in the regular grades.

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[1] This should be regarded merely as a *transitional* "minimum irreducible" standard. The amount of special preparation should gradually be increased to 12 or 15 semester hours credit.

Methods of Instruction.—The general character of the instruction, training and care should be largely individual, based upon the peculiar interests, habits, previous history, and especially the mental and physical handicaps of each pupil. The methods and contents of the instruction should be so altered and adapted from time to time as to meet the developing needs of the child.

Organization of Classes.—It is desirable whenever possible to establish two or more classes in a center, in order to permit of better grading or the departmentalization of the instruction, and in order to secure more ample supplies and equipment. The schools should be located in bright, cheery quarters, with ample playground space and pleasant surroundings, should have adequate appointments, and provide the best conditions for the education of children who are seriously handicapped in the race of life.

Local Administrative Direction of Special Classes.—It is suggested that all the special classes in the large cities be placed under the supervision of one official who is an expert in the field of special education.

RULES AND REGULATIONS APPLYING TO DIFFERENT TYPES OF SPECIAL CLASSES

Special Schools for Individual Instruction (or Opportunity Classes) for FEEBLE-MINDED CHILDREN.—It is better to refer to these classes by some such designation as the above instead of "classes for the feeble-minded," which would prove offensive to many parents.

Admission of Pupils.—Only children who have been properly *individually* examined by means of standardized tests of intelligence may be admitted. Children with less than a three year mentality or less than an intelligence quotient of 30 per cent, and with more than a nine-year mentality or over 70 per cent of intelligence, and children who have the capacity to do satisfactory all-round third grade work, should not be admitted to these classes, which are intended for feeble-minded children.

It is also important that an investigation be made before admission of the child's physical condition, his personal, family, and school history, and the influences in his physical and social environment.

Discharge of Pupils.—Through errors of diagnosis it may happen that children may be assigned to these classes who are not feeble-minded.

An effort should be made to discover such pupils as soon as possible, and to transfer them to other types of classes.

Organization of Classes.—It is recommended that centers be established apart from the elementary schools in cottages or homelike buildings, affording adequate opportunites for practical household training, and for gardening.

Size of Classes.—The minimum enrollment per teacher required by law is 10. But it is suggested that each teacher can successfully handle from 15 to 18 pupils.

Curriculum.—These classes are not intended to be restoration or coaching classes. The dominant aim should be to supply a type of training which will render the defective child as happy, contented and useful as possible in the restricted world of opportunity in which he must live after leaving school.

The program should include appropriate opening exercises, literary, manumental and vocational work, sensori-motor training, physical training, including corrective gymnastics, plays and games, and the development of habits of industry and appropriate social responses.

About 35 per cent of the pupil's time may be devoted to literary work, 35 per cent to manual work, and the remaining time to physical training, sensori-motor training, etc. This represents merely a general guide. Some pupils should be given more literary instruction, others less. It is essential that the program be flexible so that the work will be adjusted to meet the needs of each pupil. Devote more time, as a rule, to developing a child's talents than to overcoming his greatest defects. The literary instruction should be elementary, concrete and practical, and, so far as possible, should be presented in correlation with the manual activities, utilizing dynamic, meaningful projects from the child's environment.

The sensori-motor and manual training should include: kindergarten gifts and occupations, formal sensori-motor exercises, paper (cutting, pasting, construction, poster work), clay, raffia, reed, basketry, woodwork, toy making, carpentry, furniture making and repairing, loom work (with foot and hand looms, spool knitting, rake knitting, and cardboard loom weaving), garment making (making simple outfits and mending), rug making (braided and crocheted), weaving, braiding, sewing (hand and machine), hammock making, knitting, crocheting, embroidery, lace making, millinery, leather work, cobbling (shoe mending), chair caning, brush making, pottery, and concrete work, tin can constructions, free hand drawing and sketching, stencil design work, practical work in domestic training, including the care of the house and furniture, the preparation and serving of meals and lunches, laundering, outfitting a large doll (to teach care of baby), and gardening.

The equipment should include the necessary tools, supplies and materials for carrying on the above types of manumental work and the physical training, and a piano or victrola.

Qualifications of Teachers.—The special preparation required should include such courses as: the psychological, sociological and pedagogical aspects of feeble-minded and subnormal children; the practical examination of subnormals by means of tests of intelligence; the detailed pedagogy of the feeble-minded; observation of, and practice teaching in, classes for the mentally defective; manumental and industrial training for subnormals.

Young teachers who are nervously stable, patient, interested in the welfare of these handicapped children, and who have done a strong grade of primary work, usually make the best teachers for this type of work.

UNGRADED CLASSES

For Children on the Borderline of Mental Deficiency or Who Are Intellectually Backward.—Under the provisions of the law effective in June, 1921, school districts may establish classes for "twenty or more children, who, while not feeble-minded, are on the borderline of mental deficiency, or are so backward in intelligence as to be incapable of receiving proper benefit from the instruction in the regular grades."

Admission of Pupils.—Children to be admitted to these classes must first be properly examined by means of standardized tests of intelligence, and may range in capacity from 65 per cent to 90 per cent of normal intelligence. Some children with 65 per cent of intelligence or more may prove clearly to be feeble-minded, and therefore should not be assigned to the ungraded classes, but to the special classes for the feeble-minded. But children of doubtful mental status, who occupy a "borderline zone" ranging from an intelligence quotient of from 65 per cent to 80 per cent, should be assigned to ungraded classes for special aid and careful observation. For this type the classes will serve the function of "observation classes" or "observation wards."

It may occasionally be advisable when the proper classes are not available to assign pupils of higher mentality to these classes who have serious specific pedagogical handicaps or who are much retarded in their school work. Such assignments should be made on a temporary or part-time basis.

Discharge of Pupils.—Borderline pupils and pupils of doubtful mentality who eventually prove to be mentally defective should be transferred to the classes for the latter type as soon as this fact becomes apparent. On the other hand, pupils who have been sufficiently improved to do successful work in the grades should be returned to the regular school.

Organization of Classes.—It is advisable to establish these classes in the regular grade schools, preferably with two or more classes to a center.

Curriculum.—The instruction should in all cases be adapted to the varying needs of the pupils. But more emphasis should be placed on the literary work in these classes than in the classes for the mentally defective. The literary instruction should be presented concretely, and much use made of the oral method of presentation. It is well to give young children a considerable amount of literary work, until their limitations in the literary branches become obvious. The non-restorable types should be given an increasing amount of manumental work as they grow older, properly correlated, preferably by means of dynamic projects, with the literary studies.

The manumental and prevocational activities should be selected, according to the requirements of the pupils, from most of those recommended above for feeble-minded pupils. Proper equipment must be provided for the manual work. Many of these pupils should be transferred to an elementary industrial or prevocational school when such a school is available, at the age of 13 or 14. Considerable emphasis should be placed on proper physical training.

Qualifications of Teachers.—The teachers should have much the same training and qualification required by teachers of the mentally defective.

CLASSES FOR DEAF CHILDREN

Admission of Pupils.—Only pupils who are entirely deaf or almost deaf should be admitted to these classes, after a proper examination of the condition of the child's ears and his auditory acuity. Deaf children suspected of being feeble-minded should be given a proper psychological examination. Very-hard-of-hearing pupils who can hear the ordinary voice only with great difficulty should not be assigned to these classes but to separate "conservation of hearing classes," or classes for the "semi-hearing," established in the regular schools, in which much time should be devoted to lip-reading and speech improvement, and the preparation of certain lessons which the pupils may well recite in the regular grades. No definite acuity standard has thus far been generally adopted for admission to the semi-hearing classes. But admissions should be restricted to pupils who are only able to hear a forced whisper (at end of expiration) at a distance less than six feet.

Discharge of Pupils.—Pupils should be transferred whose hearing has improved sufficiently to enable them to do successful work in classes for the semi-hearing or in the regular grades.

Organization of Classes.—Single classes may be established in the grade schools, in order to afford possibilities of contact with the hearing pupils, in the instruction and social activities, or in a central graded school, in which the pupils can be more closely classified for instructional purposes.

Size of Classes.—The registration per teacher should be limited, so far as possible, to the minimum number required by law, namely 10 full-time pupils. However, should it seem desirable to admit pupils during certain periods of the day, in order that they may be prepared by the teacher for participation in the recitations of the hearing pupils, the enrollment may reach 15 or 20.

Curriculum.—The emphasis should be placed on teaching lip reading, on the use of the oral method as against the sign method, and training the pupils to speak, in the case of all pupils whose intelligence enables them to profit by these methods. Defects of articulation should be corrected by appropriate speech drills. The literary instruction for mentally normal pupils should follow, so far as possible, the curriculum in the regular grades. The manumental and prevocational training should vary with the interests, capacities and probable after-careers of the pupils, and should aim to develop skill in crafts and occupations in which the child's deafness will not constitute an undue handicap, such as, reedwork, manual training, wood-turning, wood-carving, mechanical drawing, dressmaking, tailoring, cleaning and pressing, fancy work, mattress making, millinery, sewing, housework, laundering, baking, cobbling, printing, sign-painting, photography, auto-repairing, bookbinding, bookkeeping, engraving, typewriting, barbering, dairying, gardening, and brick and stone-laying. Every opportunity should be offered exceptionally able pupils to develop their special talents and to attain their highest possibilities.

Qualifications of Teachers.—The special qualifications must include training and experience in the oral method of instruction, in teaching lip reading, speech improvement and speech correction for deaf children, in sensori-motor, and manual work appropriate for the deaf, and courses in the psychology and pedagogy of mentally exceptional children.

CLASSES FOR BLIND CHILDREN

Admission of Pupils.—Only those pupils may be admitted, after a satisfactory examination of the eyes and determination of the degree of visual acuity, who are totally blind, or who possess less than 6/18 vision, and whose vision would deteriorate if the eyes were subjected to the ordinary processes of the instruction in the regular classes or in the conservation-of-vision classes. Visually handicapped children who, while not blind, are suffering from progressive or severe uncorrectable myopia (about 6/18), congenital cataracts, nystagmus, optical atrophy, retinitis, and corneal opacities, or any other condition which would diminish vision under near use of the eyes, belong in "conservation-of-vision" classes or classes for the "semi-sighted" where use may be made of large print, individual blackboards, and the oral method of presentation. Mentally subnormal pupils should also be psychologically examined.

Discharge of Pupils.—Pupils should be discharged whose vision ash improved sufficiently to enable them to cope with the instruction without undue ocular or other handicap in the regular grades or in classes for the semi-sighted.

Organization of Classes.—Single classes may be established in the grade schools, in order to afford possibilities of contact with the sighted pupils in the instructional and social activities, or in a central graded school, which will permit of closer classification of the pupils.

Size of Classes.—The minimum number of full-time pupils per teacher required by law is 10. But from 15 to 20 may be enrolled if pupils are sent for part-time instruction in preparation for participation in the recitations of the sighted pupils.

Curriculum.—Emphasis should be placed upon teaching the pupils to read and write by means of the revised Braille method. The instruction should follow, so far as possible, the regular elementary curriculum in the case of the mentally normal blind. The vocational training should vary with the child's interests, capacities and probable after-career. Skill should be developed in activities in which the child's visual handicap will least interfere with his ability to earn his livelihood. The manumental training may include, besides the usual manual activities, chair-caning, basket-weaving, domestic art, broom-making, and piano-tuning.

Gifted pupils should be given every opportunity to develop their special talents and to fit themselves for the highest type of service of which they are capable.

Qualifications of Teachers.—The special preparation should include training and experience in the modern methods of teaching the blind to read by touch, in sensori-motor, manumental and occupational work for the blind, and in the psychology and pedagogy of mentally exceptional children.

CORRECTION OF SPEECH DEFECTS

Admission of Pupils.—Pupils are eligible for treatment who are subject to some form of speech obstruction, defect or disorder which is amenable to correction or improvement, such as baby talk, defective phonation, nasality, lisping, cluttering, stuttering, stammering, etc. This work is not primarily intended for children who mispronounce or misenunciate words for reasons other than defects of speech.

Many speech defectives should be given a proper physical and psychological examination before treatment is begun.

Organization of Centers.—It may be desirable in exceptional cases to assign pupils with grave speech disorders, or speech disorders which exert a deleterious influence upon other pupils, to speech correction classes for full-time attendance. But the most economical arrangement is to establish centers to which pupils from a given number of schools may be sent for speech training for two or more periods per week.

Methods of Correction.—Many of the exercises, particularly the introductory physical exercises, breathing exercises, tongue and lip gymnastics, articulation drills, voice placement, rhythmic speech drills, may be given as collective exercises to from 10 to 20 pupils in a group. These exercises, however, should be supplemented by individual training adjusted to the needs of each child. The physical training and voice exercises should be reinforced by the removal of hampering physical obstructions as well as the psychological factors which may produce or augment the speech disability.

Qualifications of Teachers.—The special preparation should include courses on the anatomy and physiology of the organs of speech, the psychology and pedagogy of speech defects and mental defects and deficiencies, and the observation of, and practice experience in, the correction of speech defects.

CLASSES FOR CRIPPLED CHILDREN

Admission of Pupils.—(1.) Definition: A crippled child, in the meaning of this Act, is one who is unable to help himself to school because of orthopedic disabilities but is "able to be moved about." Crippled children should not be admitted to these classes who can attend the regular schools without undue hardship. The classes are intended for children who require bus service.

2. Special classes for mentally subnormal crippled children and for crippled children with active tubercular disease (preferably in quarters with a southern exposure, with facilities for outdoor classrooms or open window ventilation, or a solarium) should be established whenever necessary. The best place for children with active bone tuberculosis, however, is in rural convalescent hospital schools.

3. All the children should be given an orthopedic examination. It is believed that the services of orthopedic surgeons, when the schools do not employ such specialists, can be obtained without charge for all the indigent pupils. The mentally subnormal cripples should be given a psychological examination.

Discharge of Pupils.—Pupils whose orthopedic disabilities have been cured or greatly improved should be transferred to the regular grades or, if subnormal, to classes for feeble-minded or backward pupils.

Organization.—It is advisable to organize central schools wherever possible rather than individual classes. A two-story building with inclines and stairs (and an elevator, if possible) is the most economical. A model building should contain an assembly room, academic classrooms, industrial classrooms, a curative gymnastic room, bathroom, rest room (with a few couches or sanitary cots and folding chairs), sun room, or open air room, kitchen, dining room, toilet rooms, many exits, wide aisles, no thresholds between rooms, rubber or cork on the floors and stairs, and handrails along the walls. The location should afford a sunny exposure. The seats and desks should be unfastened, adjustable or semi-adjustable, the best type of desk being the single pedestal adjustable (such as the desk made by the Theodore Kunz Co., Cleveland, Ohio.) Appeals may be made to welfare organizations to supply wheel chairs, braces, casts, etc. when the Board or parents cannot supply them.

Curriculum.—The training should be adjusted to meet the varying mental and physical needs of the pupils. In general, the curriculum should comprise the following chief divisions: (1) Academic. The course of study in the regular schools should be followed in the case of mentally normal cripples. (2) Physical care and rehabilitation, including orthopedic treatment, curative or corrective gymnastics, massage, electrical and heat treatment, and heliotherapy. (3) Manumental and semi-vocational training, including, according to individual requirements, kindergarten activities, paper and clay work, raffia, reed, basketry, woodwork, burnt woodwork, toy making, loom work (with foot and hand looms), rug making, weaving, knitting, sewing, crocheting, embroidery, making simple garments, lace making, millinery, hammock making, leather work, cobbling, brush making, pottery, chair caning, sheet metal, decorative and design work, making artificial flowers, free hand lettering, printing, block printing, proof reading, construction of artificial limbs, stenography, and typewriting. (4) Rest periods should be provided for pupils requiring them. It is also suggested that arrangements be made for supplying hot lunches to all the pupils.

Enrollment in Classes.—The minimum registration fixed by law is ten pupils to the teacher. It is suggested that the enrollment of mentally normal pupils may vary from 20 to 25 pupils, while about 15 mentally subnormal pupils may be handled in a class.

Transportation.—It is suggested that the most economic solution would be to arrange for the use of the police patrol automobiles, as is done in Chicago, Detroit, Boston and Baltimore (marked "school ambulance" in Baltimore).

Qualifications of Teachers.—Teachers to meet the approval of the state superintendent of schools must have had at least two years of training beyond the high school in a standard normal school or college, and, in addition, at least of eight semester hour's credit in such courses as the diseases, orthopedic and gymnastic treatment and physical care of crippled children, manumental and industrial work for crippled children, and the psychology and education of subnormal and exceptional children.

THE RELATIVE STANDING OF MATHEMATICAL AND NON-MATHEMATICAL PUPILS[1]

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This is a study of the relative standing in second and third year high-school work of two groups of pupils—Group A consisting of pupils who studied no mathematics in their high school course and Group B consisting of pupils who studied mathematics in the first year of high school but studied no other mathematics—both groups otherwise being of approximately the same general ability and character as indicated (1) by the same elementary-school records, (2) by approximately the same records in the first year of high school, (3) by the fact that all were taking the 'commercial course,' (4) by the fact that in the first year of high school both groups studied almost the same subjects, except that those who did not study mathematics took a fourth study in one of several scattering fields, (5) by the fact that after the first year of high school all pupils were indiscriminately mingled in various subjects of the commercial curriculum.

PRELIMINARY INVESTIGATION

The records of the English High School of Boston were taken as working material, the records chosen being for the classes graduating from 1914 to 1919 inclusive. The cases selected were limited to boys who had a complete record at the English High School, both for the sake of getting a comparison of individuals at the start of their course and because boys completing a four-year course could much more equitably be compared one with the other than could partial and full-course boys.

In all over fifteen hundred cases were carefully examined in a preliminary study, three groups being considered: I, boys who studied no mathematics in their entire course; II, boys who had studied mathematics one year only; III, boys who had studied mathematics two years or more. Of these fifteen hundred cases about eleven hundred belonged to group III (boys who studied mathematics for two years or more), the remaining cases being divided fairly evenly between group I and group II.

Early in the investigation it became evident that the large group would not help, for occasional individuals changing from college preparatory courses to commercial courses seriously complicated the study and its interpretation. Consequently the investigation was restricted to a study of group I and group II—those who had not studied mathematics at all in the high school and those who had studied mathematics in their first year only. Those two groups were about equal in number, both were enrolled in the 'commercial course,' and both were impartially related to the investigator, no individual in either group having been under his instruction, though a few in each group had been with him as their home-room teacher during one year of their high-school course. Further, these two groups were well suited for comparison, since all pupils in those groups were commercial pupils, their first-year work for every one including English and for most bookkeeping and French or Spanish. The fourth subject for group II was mathematics and for group I variously history, science, or drawing. For the later years of the high-school course both groups studied predominantly commercial subjects and subjects sufficiently alike to afford an excellent basis for comparison.

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[1] Harvard Seminaries in Secondary Education, Project 1920–F2122–6.

ELEMENTARY-SCHOOL RECORDS

As one basis for determining the essential equality of the two groups at the beginning of their high-school work the elementary-school records of the pupils in those groups were examined. From the card catalog in the high-school office the previous record of each pupil was ascertained. Some came to the English High School from private schools, some from the public elementary schools of Boston, and others came from public elementary schools in other cities and towns. From the original groups all pupils were eliminated from consideration in this investigation except those who entered the English High School from the public elementary schools of Boston.

In Boston the elementary-school records of pupils in various studies are entered on the scale 1,2,3,4,5,6, the number 1 representing the best work and 4,5,6 representing different grades of failure. The marks received in individual studies in the eighth grade, multiplied by certain fixed constants varying for different subjects, and then totalled, give the Z mark, whose value varies inversely as its amount—300 being the highest figure and the lowest record permitting the pupil to receive an elementary-school diploma and admitting him to the high school.

Careful investigation has shown that Z marks from different elementary schools have every different significance and that one cannot assume that pupils with the same Z marks from different elementary schools are entering the high school with equal preparation or equal ability. It has also shown, however, that certain elementary schools give approximately equivalent grades, that other schools vary widely in the value of the grades given, and that records from individual schools are fairly self-consistent. In this investigation it seemed best to minimize this varying factor by pairing pupils in group I and group II and selecting pupils from the same elementary school and with approximately the same Z record, one in group I and one in group II.

As the high-school marks have only three grades above "passing" and the Z marks permit "passing" for any record under 300, it seems that a variation of 25 points or less on the Z record is not indicative of any essential difference in preparation or ability and it was decided to keep within a variation of 25 points in forming pairs. Actually it was found possible to keep within a variation of less than 10 points for nearly all of the cases selected for study.

On the pairing basis (one pupil of group I and one pupil of group II, both from the same elementary school and both with approximately the same Z record) it was possible to secure 115 pairs; that is, 115 graduates of the English High School with no mathematical study in their high-school course, and 115 graduates who in their high-school course took one year only of mathematics, began their high-school courses with such equal chances of success of failure as could be indicated by their work in the elementary school. Those boys graduated from the elementary school on an equality, they all possessed enough ability and perseverance to complete a four-year high-school course and receive a diploma, and the only essential difference in their course in the high school was that group II studied mathematics for one year while group I did not. The average Z mark for the pupils in group I was 220 and that for the pupils in group II was 223.

FIRST-YEAR HIGH-SCHOOL RECORDS

In Table I are presented figures showing the relative standing in the first-year high-school studies of both groups of pupils.

In these figures is found a striking continuance of the essential equality of group I and group II as indicated by their Z records for work in the elementary school. The first-year high-school records for all studies show an almost exact correspondence in the distribution of

TABLE I.—SHOWING THE RELATIVE STANDING IN THE FIRST YEAR OF HIGH SCHOOL OF PUPILS WHO DID STUDY MATHEMATICS IN THAT YEAR AND THOSE WHO DID NOT

Subjects	Group	Number of cases	Distribution of grades by per cents[1]					
			A	B	C	D	A & B	C & D
English	Math.	115	6	22	69	3	28	72
	Non-math.	115	7	31	58	3	38	61
French and Spanish	Math.	105	10	37	47	6	47	53
	Non-math.	104	10	27	59	5	37	64
English, French, and Spanish	Math.	220	8	29	58	5	37	63
	Non-math.	219	8	29	59	4	37	63
Bookkeeping	Math.	78	9	33	56	2	42	58
	Non-math.	115	2	32	64	2	35	66
History, Science, and Drawing	Math.	47	4	35	56	4	39	60
	Non-math.	123	8	37	53	2	45	55
All studies except mathematics	Math.	555	8	31	58	4	39	62
	Non-math.	676	7	32	59	3	39	62
All studies	Math.	676	8	32	58	3	40	61
	Non-math.	676	7	32	59	3	39	62

[1] Grades A, B, and C are passing grades. Grade D indicates failure.

grades for group I and group II, and this is also true if the grades in mathematics are excluded. In English the non-mathematical group has the advantage, but that advantage is reversed in foreign languages, and when the grades for English, French, and Spanish are combined the distributions of grades are almost exactly the same. In bookkeeping the mathematical group has an appreciable advantage, possibly because of its mathematical relations, but the advantage is reversed in the case of history, science, and drawing, where the non-mathematical group has an appreciable lead. In general one could scarcely expect to find a closer accord than is indicated for the two groups on Table I.

SECOND AND THIRD YEAR HIGH-SCHOOL RECORDS

In Table II are presented the records of the two groups of pupils in their second and third year high school work.

Those figures indicate that in all studies combined the mathematical group secured 28 per cent more high-grade marks (A's and B's) than the non-mathematical group. They show also that for every

TABLE II.—SHOWING THE RELATIVE STANDING IN THE SECOND AND THIRD YEARS OF HIGH SCHOOL OF PUPILS WHO STUDIED MATHEMATICS IN THE FIRST YEAR AND OF THOSE WHO DID NOT STUDY MATHEMATICS IN THE FIRST YEAR OF HIGH SCHOOL

Subject	Group	Number of cases	Distribution of grades by per cents					Superiority of mathematical group in per cents of A and B grades
			A	B	C	D	A & B	
English II	Math.	115	3	26	64	6	29	26
	Non-math.	115	3	20	64	12	23	
English III	Math.	115	3	21	66	10	24	26
	Non-math.	115	2	17	69	13	19	
French and Spanish	Math.	171	2	21	66	11	23	15
	Non-math.	171	3	17	67	13	20	
History	Math.	53	6	23	66	6	29	32
	Non-math.	64	6	16	75	3	22	
Physics and Chemistry	Math.	78	9	27	53	12	36	50
	Non-math.	60	7	17	73	3	24	
Bookkeeping II	Math.	108	7	25	66	2	32	39
	Non-math.	112	2	21	68	9	23	
Bookkeeping III	Math.	80	10	26	57	6	36	29
	Non-math.	67	7	21	66	6	28	
Commercial Geography	Math.	30	0	13	87	0	13	(225)
	Non-math.	44	2	2	84	11	4	
Commercial Law	Math.	19	5	16	79	0	21	(24)
	Non-math.	35	6	11	74	9	17	
Stenography II	Math.	111	9	32	53	6	41	41
	Non-math.	104	8	21	61	10	29	
Stenography III	Math.	85	8	35	53	4	43	30
	Non-math.	87	7	26	58	9	33	
Typewriting	Math.	100	17	27	54	2	44	19
	Non-math.	102	8	29	57	6	37	
Drawing	Math.	15	0	40	53	7	40	(8)
	Non-math.	38	3	34	63	0	37	
Civics	Math.	20	0	25	70	5	25	(−32)
	Non-math.	9	0	33	56	11	33	
All studies	Math.	1100	7	25	62	6	32	28
	Non-math.	1123	5	20	66	9	25	

subject or group of subjects except civics the advantage is noticeably in favor of the mathematical group, the amount of superiority (as measured by the proportion of A's and B's secured) ranging from fifteen per cent to 50 per cent for all studies enrolling as many as fifty pupils in each group, and averaging (with the same exceptions) about 31 per cent. In drawing (only 15 mathematical pupils and 38 non-mathematical pupils) commercial geography (30 mathematical pupils and 44 non-mathematical pupils), commercial law (19 mathematical pupils and 35 non-mathematical pupils), and civics (only 9 mathematical pupils and 20 non-mathematical pupils) the numbers enrolled were too small to warrant interpretation separately.

Much the same superiority is shown for mathematical pupils if their records are compared in summation. Marks in the Boston English High School are given in literal values—A, B, C, D, together with E or F for extremely poor work. A few E and F marks in the records of pupils were considered as D in this study. For statistical study it is frequently necessary to translate such literal values into numerical values. For that purpose the English High School regularly employs an arbitrary scheme of evaluation as follows: A = 5, B = 3, C = 1, D = 0. This is one of the two methods employed in this study and hereafter is referred to as the 5–3–1 Method. Professor Inglis of Harvard University is sponsor for another method of evaluation which may be described as the Direct-Inverse Method and is referred to hereafter as the D–I Method. By that method relative numerical values are assigned to literal grades according to the relative frequency of their occurrence, any convenient arbitrary value being assigned to one literal grade and all other literal grades being evaluated according to their relative frequency as compared to the grade chosen as the base. Thus the proportionate part of the sum total of given marks is found for each literal grade. For convenience in this study the value of each literal mark is rated directly for those below the C and inversely for each literal mark above the C. To dot his all final grades in all subjects in the English High School for the three successive years 1917, 1918, and 1919 were totalled and their proportions determined as follows: A–6 per cent, B–22 per cent, C–60 per cent and D–12 per cent. Employing C as the base and with a convenient 5 points assigned to it the value of D was determined as 1 (its direct ratio to C being 1–5). Using the inverse ratio A was assigned 50 points (its ratio to C being 6–60, or 1–10) and B was assigned 15 points (its ratio to C being 22–60, or approximately 1–3). The values assigned by the Direct-Inverse Method thus were: A = 50, B = 15, C = 5, D = 1. It should be understood, of course, that such evaluations are relative only.

In Table III are presented the summation totals in each subject or group of subjects for the mathematical group of pupils and for the non-mathematical group of pupils, according to the 5–3–1 Method and according to the D–I Method. It should be understood that in deriving those summation totals the numerical equivalents of the literal values were multiplied by the per cents receiving them according

TABLE III.—SUMMATION RECORDS COMPARED FOR PUPILS WHO HAD STUDIED MATHEMATICS IN THE FIRST YEAR OF HIGH SCHOOL AND FOR THOSE WHO HAD NOT

Subjects	Group	Number of cases	Summation record 5-3-1 method	Superiority of mathematical group, per cent (5-3-1 method)	Summation record D-I method	Superiority of mathematical group, per cent (D-I method)
English II	Math.	115	157	13	891	10
	Non-math.	115	139		807	
English III	Math.	115	144	11	830	18
	Non-math.	115	130		703	
French and Spanish	Math.	171	139	5	771	3
	Non-math.	171	133		748	
History	Math.	53	165	8	966	4
	Non-math.	64	153		928	
Physics and Chemistry	Math.	78	179	13	1132	18
	Non-math.	60	159		958	
Bookkeeping II	Math.	108	176	25	1077	43
	Non-math.	112	141		754	
Bookkeeping III	Math.	80	185	13	1181	15
	Non-math.	67	164		1026	
Commercial Geography	Math.	30	126	(26)	630	(9)
	Non-math.	44	100		576	
Commercial Law	Math.	19	152	(11)	900	(9)
	Non-math.	35	137		829	
Stenography II	Math.	111	194	18	1201	18
	Non-math.	104	164		1015	
Stenography III	Math.	85	198	16	1204	16
	Non-math.	87	171		1034	
Typewriting	Math.	100	220	20	1527	37
	Non-math.	102	184		1116	
Drawing	Math.	15	173	(−4)	952	(0)
	Non-math.	38	180		955	
Civics	Math.	20	145	(−7)	730	(−7)
	Non-math.	9	155		783	
English, French, and Spanish	Math.	401	149	10	829	10
	Non-math.	401	136		753	
History and Civics	Math.	73	156	3	890	−3
	Non-math.	73	152		914	
Physics, Chemistry, and Drawing	Math.	93	180	7	1066	13
	Non-math.	98	169		947	
Bookkeeping, Geography, and Law	Math.	237	171	20	1043	29
	Non-math.	258	142		809	
Stenography and Typewriting	Math.	296	206	16	1309	23
	Non-math.	293	177		1068	
All studies	Math.	1100	174	15	1031	19
	Non-math.	1123	151		869	

It should be noted in this table that all figures are relative. The summation figures were determined by applying the percentage distribution of grades (as given in Table II) to the numerical values of literal grades according to the 5–3–1 method and according to the D–I method. Thus varying numbers of the two groups were allowed for. Figures in parentheses where the number of cases is small.

to the figures given in Table II, so that due allowance might be made for varying numbers taking different subjects and for the fact that not always did equal proportions of mathematical pupils and non-mathematical pupils take any given subject.

The figures in this table confirm the general conclusions to be drawn from the figures in Table II by showing a distinct advantage in favor of the mathematical pupils, whether their summation records were determined by the 5–3–1 Method or by the D–I Method. For all studies combined the mathematical group showed a superiority of 15 per cent by figures based on the 5–3–1 Method and a superiority of 19 per cent by figures based on the D–I Method. Further, for each subject for which there is a sufficiently large number of records to justify interpretation there is an advantage in favor of the mathematical group, that advantage ranging from 5 to 25 per cent (5–3–1 Method) or from 3 to 43 per cent (D–I Method). Records in commercial geography, commercial law, drawing, and civics must be ignored as having each too few numbers to warrant interpretation separately.

When the 115 pairs of pupils were examined individually it was found that 58 per cent showed a distinctly superior accomplishment by the mathematical member, 12 per cent no appreciable advantage for either member of the pair, and 30 per cent of the pairs showed a better accomplishment for the non-mathematical member. In this connection it may be well to note that the pupil who does little in a study cannot be expected to carry over much into other studies. To expect one hundred per cent of advantage in favor of the mathematical members of such pairs would be an absurdity.

The mathematical course involved in this study is not the stereotyped algebra of the old-time algebra text, but a first-year course in mathematics following very closely the outline given in the Report on Reorganization of the First Courses in Secondary Mathematics, comprising a preliminary report by the Committee on Mathematical Requirements, published by the federal Bureau of Education. Whether or not the stereotyped course in algebra would show the same results is a matter of conjecture.

SUMMARY

Two groups each having 115 pupils began their work in the English High School of Boston at the same time, entering from the same elementary schools with the same records for their elementary-school work. Both took the 'commercial course' in that school and graduated after studying much the same subjects, except that one group studied mathematics during the first year of high school and the other did not. Their standing in the first year of high school was almost exactly the same. In their work of the second and third years the pupils who had studied mathematics in their first year manifested a distinct superiority over those who had not studied mathematics.

A SUMMER SCHOOL PROGRAM FOR CITY CHILDREN

HENRY HARAP
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THE PROBLEM

In every large city thousands of school children are released from school attendance at the end of June to pursue for two months what random occupations their particular environment offers. The reason for this is not easy to ascertain, particularly when one knows that originally, public elementary schools were in session practically all year. However, it is not difficult to show the need for proper care and guidance of the great mass of school children of the cities, particularly in the congested quarters, during the summer vacation. Who would not agree that the tenement home, the crowded street, or the dirty backyard do not offer the proper environment for the growth of the child? Yet year after year the school authorities turn hordes of children loose for two months to find what chance education they can in such surroundings?

When the city school system released the children of our neighborhood, those of us who were charged with the conduct of the Hudson Guild Summer Play School felt that it was our duty to take up the work of educating our children in a manner consistent with the best practices of child development. It was our task to design a summer-school program of eight weeks.

THE CHILDREN

Our budget permitted us to admit not more than 110 children. We therefore felt obliged to accept under-developed children only. About 250 children were examined 110 of whom were chosen as our final Play School group. General instructions regarding school hours and fees (10 cents a day) were sent to every parent. In addition, our social visitor made a call at the homes of children whose parents were not sufficiently familiar with the Play School aims.

Our records showed that 28 of our children were fatherless and 26 motherless. The mothers of about 30 of our children worked in factories or homes. The average family consisted of five persons. Forty-three children were of Irish parentage, 33 of native American parentage, and 28 of Italian parentage; the remainder were French, Spanish, German, Polish, and Russian. The Irish child is pleasant, sensitive, jocular, physically active, boisterous, and strong in emotional bias. The Italian child is appreciative, slow, quarrelsome, submissive, helpful, and plodding. The Spanish and French children, we gathered from the handful that we had, are refined, light, receptive, elusive and clean. Two-thirds of the fathers of our children were unskilled laborers. Of these, thirty per cent were longshore-men; day-laborers, truck-drivers, and iron-workers were most numerously represented among the rest. There was no predominant occupation among the skilled workers.

The general appearance of the children when they came to us was rated 6.9 by our nurse, 10 being the maximum rating. In other words, at the beginning of the Play School season, the appearance of our children was barely fair. We observed the grossest absurdities of dress. We found children with winter underwear, warm shirts and trousers, long winter stockings held up by tightly bound strings or rubber bands, and heavy shoes. We inferred that many mothers of our children were not inclined or were not able to give much time to frequent and thorough laundering, particularly of under-garments and that the supply of clothing was not sufficient to allow for necessary changes of under-garments, waists, dresses, and stockings. We observed that the use of clean handkerchiefs and towels was not common.

From mental tests, we learned that our children comprised a fairly normal group, intellectually. Of the 46 children tested by the Stanford Revision of the Binet-Simon test, we found six bright children, twenty-five normal children, thirteen backward children, four on the border line between backward and feeble-minded, and one probably feeble-minded. About 40 children were given the Trabue Mentimeter group test. The average child was retarded 1.4 grades. This was probably due to social and economic causes, rather than to mental deficiency.

The interests of our children were those of the customary tenement district child: cheap movies, street and seasonal games, the candy store, petty gambling, household chores, the public park, and the waterfront. Most of the children attend the public schools; some attend the parochial schools of the Catholic church.

There was about an equal division of boys and girls. For school work, the children were divided into five groups: the kindergarten group of about 30; boys from 6–10, about 20; boys from 10–13, about 20; girls from 6–9, about 20; girls 9–13, about 20.

The medical examination previous to admission of the children gave us information concerning the physical condition of our group. We found that the average child was 4.66 pounds below the normal weight for his age and height; 74 per cent were below the normal weight for their age and height; eight were more than 10 pounds underweight. The average rating of our group as taken from the doctor's diagnosis of the general condition of the children was 7.2, 10 being the maximum; or about seven per cent below the normal rating of general condition. Fifty per cent were rated below normal, 40 per cent were normal and 10 per cent were above normal in general condition. Six per cent were in need of dental treatment; 37 per cent required treatment for enlarged tonsils and adenoids; 11 per cent had physical deformities; five per cent had skin defects; 11 per cent had miscellaneous defects.

THE STAFF AND EQUIPMENT

The staff consisted of a director, secretary, nurse, social visitor, six full-time teachers, three part-time teachers and a kitchen worker. The housekeeping staff of the building was responsible for the housework. In addition we had the assistance of a medical director, assistant nurse for a month, a director of lunches, and several advisers, the most helpful of whom was the Guild District Worker. The staff met regularly every Friday afternoon as a council, all members of which were of equal rank. Meetings were conducted by elected chairmen. A special feature of these meetings was the discussion of the progress in health and morals of the children.

Our plant was the Hudson Guild building, which was entirely devoted to the Play School. The rooms that were particularly used were the gymnasium, the roof, two rooms on the fifth floor, one for dramatics and the other for weighing; the assembly room, for the morning assembly, for lunches, and for afternoon milk; the carpentry shop; the kitchen, for keeping and distributing our foods; the kindergarten; the Play School office; the girls' room for crafts; the library for reading; the clinic room for dental work and the basement room for clay modeling.

THE ACTIVITIES OF THE SCHOOL

The children were in our care from nine in the morning to half past four in the afternoon. During the period of 39 days, beginning the 6th day of July and ending the 27th of August, we aimed to provide a regimen for the children which would result in physical and moral growth. In the selection of activities we were guided by the special needs of the children in their particular environment, and by the approved policies of play, and physical and moral education. In general, the daily program consisted of the morning meeting; manual and physical activities; the lunch period; the rest period; manual and physical activities; milk; library or bath period.

Let us now consider the daily program in detail. The craft room was pleasantest in appearance and comfort. The children were seated in ample chairs and rockers, the customary appointments of a girls' club room. They worked quietly over their sweaters, bloomers, petticoats, bungalow aprons, wash cloths, handkerchiefs, and other articles particularly selected to aid in health improvement. In the clay-modeling room the same cheerful spirit pervaded the work as the little fingers molded the clay into crude but interesting shapes. On occasions, the girls particularly made colored posters which were designed to promote proper health habits.

Every girl in the older group knitted a sweater which she later used at the children's summer camp of the Hudson Guild. It is particularly noteworthy that as the Play School season advanced it became more and more apparent to the girls that the materials which entered into the making of sweaters and the like were costly, and, therefore, ought to be purchased and not accepted gratis. At first we were doubtful whether we could induce the children to pay for materials, but when the articles were beheld in the finished form the children voluntarily agreed to pay for the cost of materials.

The work in dramatics was interesting. No effort was made to produce plays or dialogues of the finished form. The plays which were so enthusiastically entered into by the children were the spontaneous reproductions of the well-loved tales with which every child is familiar. "Snow White" and "Jack the Giant Killer" were impersonated with the realism of the accomplished actor, if not with his ease and grace. The dancing periods were equally enjoyable, but not quite so natural. Folk dances and other formal dances were taught in contrast with the freedom of the dramatic activity.

The gymnasium and Chelsea Park, which is at the door of the Hudson Guild, were used for physical exercise, games, and free play. The park was preferred for physical exercise, but the gymnasium had to be used when it rained or when the sun was too hot. All the energy which was stored up during the quiet indoor work and play was released in the park and gymnasium. Special attention was given to games and activities in which the child was most likely to engage outside of school. We had the theory that excellence in an activity encouraged further participation in it. A child who learned to play baseball well would be likely to enjoy playing baseball outside of school.

The teachers of physical exercise supervised the bath period, which came on alternate days for every group. Unfortunately, the Guild is located in a factory center and the limited amount of water pressure available made it impossible to allow a shower bath every day, although we tried this for about two weeks. Contrary to the opinion of staid adulthood, the children enjoyed bathing. When we were forced, on account of a defect in our water-supply system, to suspend bathing periods for a few days, the children made no pretense of hiding their disapproval. Towels for the shower bath were brought by the children and kept in lockers and on hooks in the dressing room. One cannot appreciate the importance of these frequent baths for our children unless one knows that very few homes in the immediate neighborhood of the Guild are equipped with bathtubs. In addition to the bath, every second day, the boys made frequent trips to the public swimming pool about 200 yards from the Guild house.

The work in music was unusually good in quality and enthusiasm. We had long given up the hope of instilling an appreciation of the musical masterpieces of such composers as Handel, Beethoven, Mendelsohn, and the like. It was therefore, a revelation to us to find the children listening with rapt attention to "Traumerei," "Largo," or the "Humoresque," played on the violin. It was, indeed, a great satisfaction to hear our typical boy of the Chelsea streets, whose favorite music is jazz, follow the difficult tempo of "Rowing Down the Rio" and other songs of like quality.

The carpentry shop was a business-like place without the trammels of debit and credit, the little craftsmen being blissfully innocent of the elements of barter and gain in the industry. The older boys made medicine cabinets, towel racks, airplanes, and sailboats. The younger boys turned out furniture fast enough to keep up with the demand of their younger brothers and sisters at home. Our exhibition table for the mothers' meeting at the end of the first month was crowded with little tables, chairs, bureaus, and rockers.

The carpentry shop, on two mornings a week, was converted into a cobbling shop. The boys sat curled up like the letter "S" around their lasts, and pounded nails into the fresh leather soles. It was very encouraging to us who had been accustomed to hearing the common complaint that cobbling was a lowly occupation and the cobbling class a low-grade club. The dignity of the cobblers' labor had suddenly risen to the level of that of the carpenter. A great social change in our little cosmos had evolved. The work was exceedingly well finished, and visitors commented that many of the jobs came up to the level of the common cobbler, who is in greater evidence than the baker in our neighborhood, where cordovan or Russian calf leather is the fashion of a limited few.

After luncheon every group retired to its room to rest for forty minutes. At first it was a bitter pill to our restless youngsters, but they soon became adapted to it. The kindergarten children slept soundly for at least an hour, and some slept on for two and a half hours. The girls fell asleep more readily than the boys. It was interesting to observe that the older group of boys rested in the gymnasium in the presence of the temptations of climbing ropes, swinging rings, a slide, and basket-balls.

It was during the sleep period that we discovered signs of adenoids, bad tonsils, and nervous defects. We have no doubt that the general increase in weight, which we have recorded elsewhere in this report, was due in part to the after-luncheon rest period.

In the afternoon every group took its turn in our well equipped library, which happens to be the only library within a half mile radius of the Guild. The tables were covered with literature previously selected by the librarian to correlate with the health, manual, and physical-training program of the school. In addition, the children were permitted to browse among the shelves and to become acquainted with library opportunities and practices. The children were encouraged to become members and to borrow books for home reading. For the little ones there were picture books and Mother Goose stories. For the older children there were books on the various crafts, weaving, health, and elementary design.

Our nurse met the two older groups twice a week and the two younger groups once a week for direct health instruction. The nurse attacked methodically the hygienic and sanitary problems which she discovered in the course of daily inspection of children and of the building. The care of the body, teeth, head, and nails, the condition of the toilet, and the effect of the heat were some of the topics considered. It is plain that the direct instruction reinforced incidental instruction, and formed a rational basis for the health advice given at odd times. We noticed at times that the children were as much absorbed in and excited about the mystery of digestion as they were about the mystery of "Ali Baba and the Forty Thieves."

The kindergarten of thirty children, six years and under, was in a sense, an isolated group, a distinct family, not quite mature enough to take its place in the little social group which the children over six formed. Greatest emphasis was put on physical development. Kindergarten children had milk in the morning as well as in the afternoon. The morning began with the "Opening Circle." It was followed by games and occupations. Most of the afternoon was devoted to sleep, and what little time was left was spent in playing games.

SPECIAL ACTIVITIES

In addition to the regular program of occupations, there were several special activities which made no small contribution to the happiness and growth of our children. On Tuesday of every week the entire group, supplied with individual picnic lunches, departed for a day in the country. Needless to say the attendance was invariably the highest on Tuesday of every week. One group went to Van Cortlandt or Bronx park, the other made a trip up the Hudson on a motor launch.

On Wednesday afternoon of each week, the entire group was entertained at the Rivoli or Rialto theatres. There the children saw the finest moving pictures made in the country and heard an excellent orchestra play the greatest compositions. It is safe to say that our children saw there for the first time the interior of a modern theatre, its scenic splendors, its beautiful color effects, its photographic excellences; and heard for the first time a large symphony orchestra of well trained musicians and high grade soloists. The effect of the experience will not become evident, we suppose, until the children grow to maturity, and then, we are certain, they will assimilate anew these experiences.

At the end of the first month we felt that we were ready to organize a bank. The announcement was made at the usual morning meeting and the next day deposits were received. By the end of August we had 58 depositors whose aggregate deposits amounted to $7.10. Some children withdrew their deposits to pay for materials used in making sweaters and medicine cabinets. The remainder of the children automatically transferred their deposits to the Hudson Guild Savings Bank, which is in operation all the year round, and which issues Pass Books with colored stamps representing denominations from 2 cents to a dollar.

A brave attempt was made to issue a children's newspaper, which resulted in a feeble response sufficient to make one edition of three columns of a single sheet of typewriting paper.

LUNCH AND AFTERNOON MILK

The physical condition of our group of children, summarized at the beginning of this report, imposed upon us a responsibility which required our most careful consideration. The provision of a noonday meal for the children of the Play School was fundamental in the original scheme of Play Schools as conceived by the Federation for Child Study in 1917. Unfortunately, we had little exact information about the dietary practices in the homes of our children. We knew as a general fact however, that the breakfast and luncheon of our children in the families of the foreign-born were very meagre, and that in the American homes they are dependent upon the economic condition of the family, which in most cases is very poor. In many cases of children whose mothers are engaged in factory or domestic work, their noonday meal is what they can buy with the few pennies which their mothers leave behind for them. The large percentage of under-nourished children is indisputable evidence of a lack of proper or sufficient food. It is therefore very plain that the noonday luncheon and afternoon milk occupied important places in the Play School scheme.

The luncheon food was prepared under the direction of an expert dietician and her staff of the Children's Canteen at the kitchen of the Ethical Culture Society building, and delivered in metal containers to us every morning at 11. The children were divided into family groups of ten. The head of the table was responsible for the needs and the order of his family. Each family arranged and set the table, removed the dishes, cleaned the table, and swept a portion of the floor in accordance with a simple and orderly plan.

PHYSICAL CARE

In reviewing the steps which we took to solve our problem, we discovered that we had evolved a fairly complete program of physical care. We examined 265 children on four occasions, discovering the physical defects which have already been enumerated. In addition to having the preliminary examination several children with serious defects were reexamined, and every child who was in the Play School in the 26th of August was subjected to a final inspection and check-up by the doctor.

It was our plan to weigh each child once every week, but this was not entirely carried out because of the heavy load of the Nurse. No group, however, was weighed less than four times during the Play School term. Interest in these weights was stimulated by the comments of the nurse, and by announcements at morning assembly.

Every morning our nurse inspected every child in the school and made a record of the general appearance of each child on a basis of 10 points.

The nurse and her assistant made 185 visits to homes of our children. Many of these were preliminary to the opening of the Play School, the object being to select under-nourished children for admission. Seven children were taken to the clinic for treatment. Two Wassermann tests were made.

Of the 85 children who were in need of dental treatment, we were able to care for 63, who required a total of 123 treatments. It may be said that the dental clinic was perhaps the best feature of our health program. This was due to the fact that we had a dentist regularly in attendance two mornings each week.

COOPERATIVE MANAGEMENT

We had decided views about what our school ought to contribute to the ultimate making of citizens and we did not hesitate about putting them into practice, but we were even more concerned about what kind of citizens we were making in our own little community at Hudson Guild. We aimed at the largest reasonable amount of participation in the management of the affairs of the school by the children. Mention has already been made of the part which the children played in the administering of the luncheon period. In addition to this the entire school was organized into a general assembly presided over by a president, a boy, and an associate, a girl, who alternated. The regular morning meeting of 40 minutes was under the complete control of the children. Teachers advised and made announcements. The regular order of business included a roll call, reports by representatives of classes on the events of the previous day, reports of the sanitary officers who made daily inspection of the building, and assignment of daily office assistants. In addition to the regular program of business there were special dramatic and musical programs. Problems of general health and cleanliness were considered, disciplinary problems were discussed; demonstrations of class work were given; announcements of weight increases were made and individual and class problems reported.

On two days a week after assembly, the board of five elected judges sat on cases of infractions of common rules and of complaints. The effect of the board was to raise the moral tone of the school. It certainly reduced disciplinary problems for the teachers. The juvenile judges were fair and not at all lenient. The director, being duly elected, sat with the board of judges, and he made no secret of the fact that he tried judiciously to influence the decisions of the Court.

Each class had its president who was responsible for the order of his class in the absence of teachers and in moving from room to room, according to a program mounted on a pasteboard which he carried with him. Ten children in succession acted in the capacity of office assistants for one-half day each week. A group of four older boys served as junior assistants to the young and inexperienced teachers, and performed their functions very creditably and with no little advantage to themselves. The older children in the Play School were of invaluable aid in traveling to and from picnics to the country.

It took about a week to inculcate the habit of picking up scraps of paper on floors and stairways throughout the building. The result of this was that the building in the afternoon was left clean and orderly. It is safe to say that the fine spirit, which we think, pervaded the school had much to do with the wide participation of the children in control of their affairs.

SCHOOL AND HOME

The efficiency of our program was in a measure dependent upon the sympathetic relations we were able to maintain between the school and the home. From the very outset, we went straight to the home of the child, interviewed the parents, reasoned with them and gained their consent and cooperation. These visits were repeated, as a matter of routine in some cases, and in others for special purposes. Written communications from homes were given prompt and courteous attention, personal letters being written frequently. We encouraged mothers to come in to see their children at work and play. We knew that our work would cease at the end of August, but we felt that the *need* for the work which we were doing would remain. We wished to make them acquainted with the immediate physical and moral needs of their children, and to suggest to them the immediate means of meeting such needs.

Our school activities were not formal or beyond the understanding of our parents. They were readily adaptable to the home. We relied upon the loquacious impulse of the child to bring home the details of our health work, our special activities, and our disciplinary methods. We felt the need of meeting the mothers directly, however, and of talking with them about the problems which were so vitally important to the children. Consequently, we arranged to hold a mother's meeting at the end of the first month. At the rear of the meeting hall, we exhibited every piece of work which the children were making, in the rough or finished form. On the stage the children went through some of the dramatizations, dances and physical exercises which they had learned. It was in no wise a staged affair, our aim being to show as unostentatiously as possible exactly what we were doing. The chief dietician of the Play School talked to the mothers informally about children's diet and promised to send each mother a pamphlet embodying the facts about our Play School luncheons for home reference.

The second mother's meeting was the occasion of the closing exercises of the Play School. Again we did not attempt a pretentious performance. We arranged in a simple way the activities of a complete day in Play School, including the children's assembly, the nurse's inspection, craft work, dancing, the luncheon period, the rest period, physical exercise, choral singing, the milk period, and the dramatics. The program closed with an earnest appeal to the parents to go on with the work which the Play School was doing and which was essential to the welfare, comfort, and happiness of the children.

RESULTS

We approach the discussion of results of the Play School with some apprehension. While we have a considerable amount of data to show material results, yet we feel that the moral results of the Play School cannot be adequately or even fairly reported. Such information as is available will be presented in the following paragraphs.

It is reasonable to assume that voluntary attendance at an institution is an index of the pupils' interest. In the light of this we were gratified to learn that the average daily attendance at our Play School was 94.9, out of an average daily register of 104, yielding an average attendance of 91.2 per cent. Thirty-eight children had a perfect attendance of 39 days; 28 children were absent only one day; 9 children were absent 2 days; 14 children were absent 3 days; 17 were absent more than 3 days. Seventy-two per cent of the children were absent less than three days. Lateness was cured very early in the Play School season by the enactment of a law unanimously approved by the children, that a child who was late twice in a week be deprived of the Wednesday afternoon movie show.

We did not permit absence to pass without home investigation. Our social visitor, gave some of her time to the duties of attendance officer. She visited the home of every absent child, interviewed the parent, and reported the cause of absence. When sickness was reported, it was brought to the attention of our nurse, who called on the sick child. In cases of children of good health or home advantages, we made no effort to retain the child on our list. In cases of children who were under-nourished, and unattended, we went a long way to hold them in our school.

On the last day of the Play School term we asked the children in a casual and simple manner what they had acquired at the Play School which would serve them as amusement, health or knowledge in the future. We received a large variety of answers. In most cases the logical and perhaps the best answer was to enumerate the activities. Consequently some children said "We learned carpentry" or "knitting" or "sewing" or "games" or "dancing" or "songs." Other answers were "We learned how to run a meeting." "The picnics taught us about the geography of New York City." One child thought that she acquired "a better brain." The answers based upon cleanliness and habits were encouraging. "To keep clean and have good habits," To keep the building clean" were typical answers. It is apparent from such answers as "To obey the rules of the theatre," "To show good manners when you go out," "Not to talk when anyone is singing," "Not to disturb busy people," that the children acquired a little notion of reasonable conduct in public places.

In answer to our request for information concerning the children at the first mother's meeting, we received such answers as the following:

"My child eats more and sleeps more"

"My child is quieter"

"My child puts his clothes away carefully"

"My child has learned to put on his shoes and stockings"

"Margaret gained in weight"

One mother's estimate of the value of the Play School to her child came to light in a casual yet interesting way. This mother had made a claim for compensation due to an accident to her boy. A doctor called at her home to examine her boy. After the examination she came to inform us that she had explained to her doctor that the boy's improvement was due to his attendance at Play School, and asked us to confirm her explanation if called upon to do so by the doctor. In the case of this boy the mother said that his nerves were better and that he began to show an interest in doing and making things. An extract from a parent's letter reads as follows:

"Just a few lines to thank you for taking Walter in to Play School as it was the first pleasure he ever had and was delighted that it was a pleasure too him for he has too go to blind school in the winter and I thank you one and all for being so kind."

A special study of the improvement in general appearance and health the details of which space will not permit, revealed the following results:[1]

In general appearance, as gathered from our nurse's daily inspection ratings, our children show an improvement of 20 per cent over their initial condition. The average initial rating was 6.93, the average final rating was 8.3.

From our doctor's ratings of general physical condition, we found an improvement of 18 per cent. The average initial rating was 7.2, the average final rating was 7.94. At the beginning of the Play School term 50 per cent of the children were below normal, 40 were normal, and 10 per cent were above normal. At the end of the Play School term 30 per cent of the children were below normal, 46 were normal, and 24 per cent were above normal.

From our record of weights we found that 4/5 of our children gained weight, each child in this group gaining nearly two pounds. The average number of pounds below normal for each child at the beginning of the Play School term was 4.66. At the end of the Play School term it was 2.24.

A control group of ten children who were not admitted but were examined at the beginning and end of the Play School, showed a loss of ½ pound in general condition and $\frac{3}{10}$ of a pound in weight.

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[1] The details of this study will be published shortly in the American Journal of Public Health.

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EDUCATIONAL
ADMINISTRATION AND SUPERVISION
Including Teacher Training

THE MINNESOTA ENGLISH COMPOSITION SCALES; THEIR DERIVATION AND VALIDITY

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During the school year 1917–18, approximately one-hundred teachers of English in the secondary schools of Minnesota took part in an investigation to measure the amount of improvement that would result as a consequence of theme writing systematically carried on through a period of several weeks. While this investigation was in progress there were frequent expressions of a need for scales for measuring the specific qualities that the different teachers were emphasizing in their various classes. Not only did the teachers feel that such scales might be of greater value to them, inasmuch as they could then measure the gain in the specific quality which was being emphasized for the time being, but they also felt that themes might be more easily and more precisely evaluated for such specific qualities as thought content, sentence and paragraph structure, or mechanical perfection than for general merit. The inclusion of specimens of the different types of theme writing was at the same time strongly urged.

To meet the needs expressed by these teachers a plan was worked out for the construction of three sets of English composition scales, each set of specimens in the scales to be independently evaluated for thought content, for sentence and paragraph structure, and for mechanical perfection. When the plan was first presented to the teachers of English in the state, approximately one-tenth of them expressed a willingness to arrange the specimens to be used in the making of the scales in an order of merit for each of the three qualities mentioned. Owing to the unusual conditions growing out of the closing of the schools for several weeks in many localities and the consequently increased burden of work after their reopening not all of these teachers were able to participate in the work. As a consequence it became necessary to fall back upon the assistance of the students in the College of Education to a greater extent than had been originally intended.

During the investigation of the previous year several thousand high school compositions had been sent in to the University and rated for general merit on the Thorndike Extension of the Hillegas Scale. From these themes three sets of about two hundred each were selected for the three sets of scales, the themes selected being those falling at the five point intervals on the scale for general merit. In order to get a sufficient variety of these themes for the lower and upper ends of the series it was necessary to collect additional compositions on the same topics from pupils of the elementary school and also from students in the University. To secure the better compositions for the upper ranges it was necessary to select from a large number of University students who had done satisfastory work in rhetoric those who were especially gifted in theme writing and to offer them some incentive to produce the best work of which they were capable. After the additional specimens had been secured and rated for general merit and those falling at the unfilled five point intervals selected for use and included with the high school themes, the three sets were submitted to a group of high school teachers of English, who selected for each of the final sets to be graded two or three specimens from the many specimens falling at each five point interval on the scale for general merit.

The first set of themes thus selected consisted of fifty-five exposition themes written on the topic, "How I earned some money." The second set was made up of fifty-nine themes, written on the topic, "It was a sight worth seeing when the boys marched past." These were to be used in the making of the narration scales. The third set of themes—sixty-two themes written on the topic, "When mother was away"—was to be used for the construction of the description scales. After the themes had been printed on sheets of paper of uniform size the three sets were distributed to approximately one-hundred-fifty teachers of English and students in the College of Education to be arranged in accordance with the following set of printed directions:

INSTRUCTIONS FOR EVALUATING THE ENGLISH THEMES SELECTED FOR THE MINNESOTA COMPOSITION SCALES

Take the set marked "Exposition," read the themes carefully and arrange them in an order of merit for the thought content, neglecting all other elements which you think go to make up merit in theme writing; that is, select from the fifty-five themes the one which you consider to be the best one in thought content and lay it to one side, face down, then pick out the theme which you consider next best in thought content[1] and put it on the top of the first one, face down. Keep on doing this with the fifty-five themes until the one you consider poorest in thought content comes on the top of the pile. If you find several themes which seem to you alike in thought content, arrange them in the order you think they should be placed even though you may be very uncertain of the order. All of the themes should be treated in the same manner even though they may not be written on the same topic. As soon as you have graded the set turn the pile over so that the best one is now on the top, face up. Take the score sheet marked "Exposition—thought content" at the top, and opposite the printed "1" write the number you find on the composition at the top of the pile; that is, the composition which you consider the best one in thought content; opposite the "2" on the score sheet write the number given on the composition which you consider next best in thought content; that is, the second one in the pile. Keep on doing this until you have written the number given on the composition at the bottom of the pile—the one you consider poorest in thought content—opposite the "55" on the score sheet. The score sheet will then show the rank at the left side and at the right the number of the composition receiving that rank.

At the next opportunity do the same things with the set of printed themes marked "Narration," writing the numbers of the compositions on the score sheet marked "Narration—thought content," putting the best one opposite the "1." When the next opportunity presents itself do the same things with the set of printed themes marked "Description," writing the numbers of the compositions on the score sheet marked "Description—thought content." When these three gradings have been completed take each set of themes and shuffle them as you would shuffle a pack of cards. Be careful, however, not to let the themes of one set get in with the themes of another set. Send the score sheet for the "Thought content" element of each of the three sets of themes to the Bureau of Coöperative Research, so that the statistical work may be taken up at the earliest possible moment.

After an interval of a few days turn again to the set of printed themes marked "Exposition" and arrange them in an order of merit just as you did the first time but this time on the basis of their sentence structure[2] and their paragraph structure, neglecting all other elements which you think constitute "merit" in composition writing. When you have the themes arranged in a pile turn the pile over as before so that the best one is on the top again, and on the score sheet marked "Exposition

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[1] See page 484 for specific qualities to be taken into consideration in evaluating the themes for thought content.

[2] See page 485 for specific qualities to be taken into consideration in evaluating themes for sentence and paragraph structure.

—structure" write opposite the "1" the number given on the composition which you consider best in this quality, opposite the "2," the number of the composition which you consider next best in structure, and so on until the number of the one you consider the poorest is written opposite the "55" on the score sheet.

When the opportunity again offers do the same things with the set of themes marked "Narration," writing the composition numbers opposite the appropriate rank numbers on the score sheet marked "Narration—structure." At the next opportunity do the same things for the set of themes marked "Description," writing the numbers given on the compositions opposite the appropriate numbers on the score sheet marked "Description—structure."

As soon as you have finished the sixth grading again shuffle each set of themes as before. Also mail to the Bureau of Coöperative Research the score sheet which you have just completed, keeping the third one for the final ratings.

When you again have some time available take up the set of printed themes marked "Exposition," and arrange them in an order of merit for mechanical errors—errors in spelling, errors in punctutation, and wrong or improper forms of words.[1] Opposite the rank numbers on the score sheet marked "Exposition—mechanical errors" write the numbers of the themes, putting the number found on the best composition opposite the "1" on the score sheet, and so on, just as you did in the case of the previous gradings. Then go through the same process for the set of printed compositions marked "Narration," putting the theme numbers in their proper places on the marked "Narration," putting the theme numbers in their proper places on the score sheet marked "Narration—mechanical errors." Finally go through the same process with the set of themes marked "Description," writing the theme numbers opposite their appropriate rank numbers on the score sheet marked "Description—mechanical errors." As soon as you have finished the last three evaluations send the last score sheet to the Bureau of Coöperative Research.

THOUGHT CONTENT

In grading for thought content take into consideration:

For Exposition
  Adherence to subject
  Interest of the treatment
  Continuity of thought
  Clearness of perception
  Discrimination in selection of words
For Description
  Maintenance of point of view (both physical and mental)
  Vividness of picture
  Emotional reaction
  Vigor and originality of diction
For Narration
  Sufficient explanation of the situation
  Naturalness and appropriateness of dialogue (if used)

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[1] See page 485 for specific qualities to be taken into consideration in evaluating the themes for mechanical errors.

Clear progress of narrative to a definite conclusion
Use of suspense or surprise
Descriptive touches
Adequacy and variety of diction

SENTENCE AND PARAGRAPH STRUCTURE

In grading for sentence and paragraph structure, take into consideration:
Unity
Coherence
Emphasis
Variety and complexity of sentences

The writer who uses many complex sentences shows a greater maturity of mind than the one who uses very simple or unnecessarily compounded sentences, even though, from the very fact of the greater complexity, he may make more actual mistakes in structure.

MECHANICAL ERRORS

In grading for mechanical errors, take into consideration:
Spelling
Punctuation (only cases of actual error, not cases where punctuation is optional)
Capital letters
Grammar (only cases of actual error, not matters of preference)
Paragraphing (only cases of actual error, not matters of preference)

Here, too, one must take into consideration the range of vocabulary and complexity of expression. For instance, it is a more fundamental error to misspell *receive* than to misspell *psychological*. Punctuation of very simple sentences would give less opportunity for error than that of complicated sentences or conversation.

While the students in the College of Education represent an even more highly selected group than is usually the case with college students, many of them being either successful teachers or graduate students in the field of education, while the rest at the time of the grading of the themes were either seniors within a few weeks of graduation or juniors within a few weeks of becoming seniors, nevertheless it was felt that the grading might be less carefully or less intelligently done than it would be by a group of teachers of English. To eliminate the possibility of such a condition each ranking of the themes for each quality was compared with a standard ranking and retained only when the similarity was close. The standard ranking was arrived at by finding the median position of the many positions assigned each theme by the English teachers doing the ranking and by enough very capable graduate students or prospective teachers of English to make up a group of forty-one judges. These median positions were then arranged in the order of their size and numbered from one to fifty-five, fifty-nine, or sixty-two, according to which set of themes they belonged. Each ranking for each quality was then compared with this standard and the coefficient of correlation obtained by the Spearman foot-rule method. No ranking was accepted for use in the making of the scales which did not show a correlation of at least +.85 with its corresponding standard. In fact, of those accepted for use only a very small per cent showed a correlation with the corresponding standard of less than +.90. This process eliminated approximately one-fifth of the rankings from further consideration. One of the surprising outcomes of this analysis of the rankings was that just as large a proportion of the rankings of the English teachers had to be discarded as of the junior and senior students in the College of Education. As a matter of fact, by this sifting process a much better set of rankings, with consequently more accurate results, was undoubtedly obtained than would have been secured from a considerably larger number of unselected rankings from English teachers alone.

The following tables give the proportion and the per cents of the judges ranking each theme of the selected group of themes above

TABLE I.—EXPOSITION SCALE: THE PROPORTION AND PER CENT OF JUDGES RANKING EACH SPECIMEN ABOVE THE ONE IMMEDIATELY BELOW IT

Specimen No.	Structure, proportion	Per cent	Mechanics, proportion	Per cent	Thought content, proportion, per cent	
29	74/119	.621	63/119	.529	84/117	.718
27	98/119	.823	101/119	.849	100/117	.854
36	81/119	.680	94/119	.796	70/114	.614
34	72/119	.605	84/119	.705	78/117	.666
39	95/119	.798	85/118	.714	87/117	.743
23	83/119	.697	88/119	.739	77/117	.658
28	91/119	.764	82/119	.689	92/117	.786
7	84/119	.705	88/119	.739	67/117	.564
50	97/119	.815	85/119	.714	94/117	.803
47	80/119	.671	88/119	.739	85/117	.726
35	80/119	.671	56/119	.473	71/117	.606
55	88/119	.739	94/118	.798	81/117	.692
48	92/118	.779	95/118	.805	85/116	.732
8	82/118	.695	75/118	.635	97/116	.836
40	97/118	.822	86/117	.735	94/117	.803

TABLE II.—NARRATION SCALE: THE PROPORTION AND PER CENT OF JUDGES RANKING EACH SPECIMEN ABOVE THE ONE IMMEDIATELY BELOW IT

Specimen No.	Structure		Mechanics		Thought content	
	Proportion	Per cent	Proportion	Per cent	Proportion	Per cent
24	56/115	.487	56/111	.504	57/124	.460
6	76/115	.660	49/111	.441	97/124	.782
9	97/115	.843	92/111	.832	103/124	.830
40	86/115	.747	98/111	.882	77/124	.621
35	85/114	.745	83/111	.747	80/124	.645
29	86/114	.754	81/111	.729	103/124	.830
50	91/115	.791	67/111	.603	74/124	.596
34	88/115	.765	93/111	.837	92/124	.741
14	84/115	.730	86/111	.774	96/124	.774
12	81/115	.704	76/111	.684	83/123	.674
41	68/115	.592	70/111	.630	77/124	.621
10	78/115	.678	83/111	.747	83/124	.669
58	80/115	.696	65/111	.585	86/124	.693
26	86/115	.747	84/111	.756	94/124	.758
51	80/114	.701	77/111	.693	106/124	.855

TABLE III.—DESCRIPTION SCALE: THE PROPORTION AND PER CENT OF JUDGES RANKING EACH SPECIMEN ABOVE THE ONE IMMEDIATELY BELOW IT

Specimen No.	Structure		Mechanics		Thought content	
	Proportion	Per cent	Proportion	Per cent	Proportion	Per cent
30	96/122	.786	78/111	.702	92/118	.779
2	103/122	.844	92/113	.821	100/119	.840
28	97/122	.795	101/112	.901	102/118	.857
23	82/122	.672	62/113	.548	74/119	.621
43	87/122	.713	85/113	.752	83/119	.697
31	96/122	.786	82/113	.725	97/119	.815
13	95/121	.785	69/112	.616	84/118	.711
42	80/121	.661	76/112	.678	81/118	.686
18	60/122	.499	76/113	.672	75/119	.630
51	96/122	.786	85/113	.752	67/118	.566
22	93/122	.762	64/113	.566	91/118	.771
26	92/122	.754	82/113	.725	78/118	.661
12	94/122	.770	87/113	.770	87/118	.737
47	98/122	.803	85/113	.752	74/119	.621

the next lower theme of the selected group, the selected groups of themes being those found most satisfactory for inclusion in the various scales. Table I is read as follows: 74 of the 119 judges or 62.1 per cent of them considered theme number 29 to be noticeably better in sentence and paragraph structure than the specimen used as a sample of zero merit in the Nassau County Extension of the Hilligas Scale; 98 of the 119 judges or 82.3 per cent of them considered theme number 27 noticeably better in sentence and paragraph structure than theme number 29; and so on. Tables II and III are read in the same manner.

In tables IV, V, and VI are given the P. E. distances between each pair of specimens in each of the several scales and the final values assigned to each of the specimens. A difference between two specimens noted by exactly seventy-five per cent of a group of competent judges constitutes one P. E., the unit of measurement used in the construction of these scales. All other per cents of judges noting distances are turned into equivalent proportions of this unit. The unit is considered to be of the same quantity wherever found in the same scale on the assumption that differences noted by the same proportion of a group of competent judges are equal differences. A full explanation of the process of converting the per cents of the group of judges noting the differences between the specimens into P. E. values, and also a discussion of the assumptions on which this process is based and the nature of the P. E. as a unit of measurement will be found in "A Scale for the Measurement of English Composition by Young People" by Dr. Milo B. Hillegas. The final value assigned to each specimen in the scales was determined by adding together all the P. E. distances up to that point and then multiplying the result by ten.

Table IV is read as follows: For structure, specimen 29 is .457 P. E. above the arbitrary zero point used, and is assigned a value of 4; specimen 27 is 1.374 P. E. above specimen 29, and is assigned a value of 18 [10 x (.457 + 1.374)].

The specimens selected for inclusion in the several scales consist of those themes which fall at somewhat equal distances apart in the three qualities of the scales in which they are used, without falling below the next lower specimen in any one of the three qualities, and at the same time consist also of those specimens where the distance between any theme and the next higher theme is approximately the same as the distance between itself and the second higher theme less the distance between the next higher theme and the second higher theme.

TABLE IV.—EXPOSITION SCALE: THE P. E. DISTANCES BETWEEN EACH PAIR OF THEMES AND THE FINAL SCALE VALUE ASSIGNED TO EACH SPECIMEN IN THE SCALE

Specimen No. Zero merit	Structure		Mechanics		Thought Content	
	P. E. distance	Assigned value	P. E. distance	Assigned value	P. E. distance	Assigned value
	.457	...	.108	...	.858	
29	.....	4	.....	1	.....	8
	1.374	...	1.531	...	1.563	
27	.....	18	.....	16	.....	24
	.693	...	1.227	...	.430	
36	.....	25	.....	28	.....	28
	.395	...	.799	...	.636	
34	.....	29	.....	36	.....	34
	1.238	...	.838	...	.968	
39	.....	41	.....	45	.....	44
	.765	...	.949	...	.603	
23	.....	49	.....	55	.....	50
	1.067	...	.731	...	1.176	
28	.....	60	.....	62	.....	62
	.799	...	.949	...	.239	
7	.....	68	.....	71	.....	64
	1.329	...	.838	...	1.264	
50	.....	81	.....	80	.....	77
	.656	...	.949	...	.891	
47	.....	88	.....	89	.....	86
	.656	...	.100	...	.399	
35	.....	95	.....	88	.....	90
	.949	...	1.238	...	.744	
55	.....	104	.....	101	.....	98
	1.140	...	1.275	...	.918	
48	.....	115	.....	114	.....	107
	.756	...	.512	...	1.450	
8	.....	123	.....	119	.....	121
	1.368	...	.931	...	1.264	
40	.....	136	.....	129	.....	134

The zero point for each of the three qualities in each kind of composition writing is an arbitrary zero point for the quality in question. The point selected in each scale is the amount of the quality to be found in the specimen representing zero quality for general merit in the Nassau County Extension of the Hillegas Scale. The actual

Table V.—Narration Scale: The P. E. Distances Between Each Pair of Themes and the Final Scale Value Assigned to Each Specimen in the Scale

Specimen No. Zero merit	Structure		Mechanics		Thought content	
	P. E. distance	Assigned value	P. E. distance	Assigned value	P. E. distance	Assigned value
	.000	...	.000	...	.000	
24	.....	0	.....	0	.....	0
	.612	...	.000	...	1.155	
6	.....	6	.....	0	.....	11
	1.493	...	1.427	...	1.415	
9	.....	21	.....	14	.....	26
	.968	...	1.757	...	.457	
40	.....	31	.....	32	.....	30
	.977	...	.986	...	.551	
35	.....	40	.....	42	.....	36
	1.019	...	.904	...	1.415	
29	.....	50	.....	51	.....	50
	1.201	...	.387	...	.360	
50	.....	62	.....	55	.....	54
	1.071	...	1.456	...	.958	
34	.....	73	.....	69	.....	63
	.909	...	1.115	...	1.115	
14	.....	82	.....	80	.....	74
	.795	...	.710	...	.669	
12	.....	90	.....	87	.....	81
	.345	...	.492	...	.457	
41	....	94	.....	92	.....	86
	.685	...	.986	...	.648	
10	.....	101	.....	102	.....	92
	.761	...	.318	...	.748	
58	.....	108	.....	105	.....	99
	.986	...	1.028	...	1.038	
26	.....	118	.....	116	.....	110
	.782	...	.748	...	1.569	
51	.....	126	.....	123	.....	126

zero point for any one of the qualities would fall somewhat below the zero point for general merit in composition writing.

Each quality in the three series of scales must be considered as a distinct scale in itself. Only as a matter of accident would eighty in thought content, for instance, be the same distance from the arbi-

TABLE VI.—DESCRIPTION SCALE: THE P. E. DISTANCES BETWEEN EACH PAIR OF THEMES AND THE FINAL SCALE VALUE ASSIGNED TO EACH SPECIMEN IN THE SCALE

Specimen No. Zero merit	Structure		Mechanics		Thought content	
	P. E. distance	Assigned value	P. E. distance	Assigned value	P. E. distance	Assigned value
	1.176	...	.786	...	1.140	
30	.....	12	.....	8	.....	11
	1.499	...	1.363	...	1.475	
2	.....	27	.....	21	.....	26
	1.222	...	1.909	...	1.582	
28	.....	39	.....	40	.....	42
	.660	...	.179	...	.457	
23	.....	46	.....	42	.....	46
	.834	...	1.009	...	.765	
43	.....	54	.....	52	.....	54
	1.176	...	.886	...	1.329	
31	.....	66	.....	61	.....	67
	1.170	...	.437	...	.825	
13	.....	77	.....	65	.....	75
	.616	...	.685	...	.719	
42	.....	83	.....	72	.....	83
	.000	...	.660	...	.492	
18	.....	83	.....	79	.....	88
	1.176	...	1.009	...	.246	
51	.....	95	.....	89	.....	90
	1.057	...	.246	...	1.101	
22	.....	106	.....	92	.....	101
	1.019	...	.886	...	.616	
26	.....	116	.....	100	.....	107
	1.096	...	1.096	...	.940	
12	.....	127	.....	111	.....	116
	1.264	...	1.009	...	.457	
47	.....	139	.....	121	....	121

trary zero point selected as eighty in mechanics. They are two distinct qualities, measurable only by different scales, even though the scales may be constructed in the same manner. Hence, simply adding together the three values assigned for the three qualities of a theme and dividing the sum by three will not be likely to give a measure of the general merit of a theme that is much, if any, more accurate than would be the measure of a liquid obtained by adding together its density, its temperature, and its volume, and then dividing the result by three. While the general merit of each of the specimens in each set of scales has been determined with a higher degree of accuracy than is likely to be done by any one else working with the scales, the values for general merit have not been included as an additional set of scales. The reason for omitting them is, of course, that far better scales for measuring general merit are already available in the Thorndike Extension of the Hillegas Scale and in the Nassau County Extension of the Hillegas Scale than these specimens would furnish, and that no encouragement may be lent to the use of inferior scales for measuring any quality when better ones are available for that purpose.

In the final arrangement of the three sets of scales—one set of specimens for the exposition scales, one for the narration scales, and one for the description scales—the three sets of values—one value for thought content, one for sentence and paragraph structure, and a third for mechanical perfection—are placed at the top of each specimen and the fourteen or fifteen specimens arranged in a series beginning with a zero specimen or a specimen closely approximating the arbitrary zero point and extending as high as the best specimen so far secured. The following sample specimens are given as an illustration of one of the sets of scales. The directions for using the scale embody looking for and taking into consideration the same characteristics pointed out in the instructions to those taking a part in the arrangement of the themes in an order of merit for the various specific qualities.

EXPOSITION SCALES

Structure 4 **Mechanics 1** **Thought Content 8**

How I Earned Some Money.

When I was on the farm I yousto driv the cows to the passeur and git 1 dollar.

Structure 18 **Mechanics 16** **Thought Content 24**

How I Earned Some Money.

I have Earned Some Money with taceig care of Baby I have Earned Some Money for gowing to the stor. I Earned Some Money for gowing and find eggs. I have Earned Some Money for dowing the deshess.

Structure 68 **Mechanics 71** **Thought Content 64**

How I Earned Some Money

Last summer in harvest time I helped one of the neighbor women do her work for a little over a week.

I did not help her as to get a job, only that I wanted to earn some money myself.

I helped her with the cooking which I enjoyed more than any other part of the work and I rather think she knew I did and that's the reason she let me do it.

As the folks had a car we took several joy rides and this made things more enteresting for me. I thought when I was ready to go home that this had been the most pleasure I had ever had in earning some money.

I had several things in mind that I wanted to get with the money but when I did spend it, I never bought what I thought I would and spent it for some clothing and I think it will proably be more benitifical to me then if I would have spend it some way.

Structure 136 **Mechanics 129** **Thought Content 134**

How I Earned Some Money.

At last I had become one of an army of women munition workers in the Russel Motor Company of Toronto. I had been given my time card, had been assigned to my shift, then at work, and had been put into uniform by the forewoman, who took me to Shop C.

Here the deafening noise of cutting steel, the bewildering whir of wheels, the myriads of belts, and the shouts of foremen were at first appalling; but I soon became accustomed to the task of rapidly inspecting fuse rings. I did this so well, so I was told, that I was promoted to a keyhole machine as operator. I stood before this hideous looking monster and its cruel knives with fear and trembling. About the knives poured constantly an ugly fluid compounded of oil and soap. Urged by competition from my partners in labor, and the need of the cause for which I was earning, I soon became so deft at the work that I averaged forty-five hundred rings a day, which paid me at the rate of seven cents a hundred.

One month later I was transferred to the oil room where a sickening odor like stale fish prevailed., In these cramped quarters we stood upon a slippery floor all day, washing the fuze rings from huge tubs filled with oil, with our arms in this liquid up to the elbows, while the oil dripped upon us and about us from the hands of our neighbors. Patriotism was tried almost to its limit after six weeks service here. But a transfer to a shell-room saved my service reputation and my promise to the Red Cross.

In the shell-room I was greeted as a fellow worker by the society woman, the laborer's wife, the coarse woman of the slums, and the university student, as we guided into place and painted the big eighty-pound shells as they came down the long chute to stop at our machines for attention. How real they seemed! With what precision they slipped into place and out again on their deadly errand! Nothing but a righteous cause could have held us women to this heavy, monotonous work through the long hours, amid the impatient shouts of foreman, and the demands for almost superhuman efforts to achieve a nearly impossible output.

When at last I was released after the three months' time I had offered, there was mingled with the feeling of regret at parting with my companions of the bench and wheel, one of pride that I had been able to earn three hundred and fourteen dollars for the Red Cross Society.

In connection with the use of the scales, two further questions may be expected to arise: Are the values for the various qualities in the exposition scales comparable with the same qualities in the narration scales or with those in the description scales? Are the scale values stable or would they be likely to vary considerably were the piece of work to be done over again by an entirely different group of judges?

In seeking an answer to the first question the printed specimens used in the narration scales were graded by the exposition scales for the three qualities—thought content, structure, and mechanics. The grading was done by twenty-eight teachers and school superintendents registered in a university summer session class in which educational tests and scales were being carefully studied. A few days later the printed themes used in the exposition scales were graded by the narration scale. As only fourteen themes had previously been graded with the exposition scale it is very unlikely that any of these people remembered the various values of the specimens as they appeared in the exposition scale. As the judges were entirely without previous training in the use of these scales, and as only one was a teacher of English rather large variations were to be expected. After the median rating of each theme had been determined, these medians were compared with the derived scale values as they are now printed on the scales. When the narration theme medians were compared with the corresponding narration scale values all but one were found to be lower. The average number of points lower was 7.2 points. This, of course, gave the impression that a certain value for the quality, structure, on one scale was not comparable with the same value for the same quality on another scale. However, when the medians of the exposition themes were compared with the exposition scale values, all but two were found to be lower. In this case the average number of points lower was 4.6, reducing the discrepancy by more than half, leaving a discrepancy between the averages of less than three points and an average discrepancy of only 4.5 points. When the medians for mechanical perfection were compared with the corresponding scale values, identically the same condition was found. For the narration themes the average number of points that the medians were lower than the corresponding scale values was 8.3, while for the exposition themes the average number of points that the medians were lower than the corresponding scale values was 5.8, leaving a discrepancy between the averages of less than three points again and an average discrepancy of less than five points. A comparison of the medians of the narration themes with the corresponding scale values for the quality, thought content, again showed all but one lower than the scales values, with an average number of points lower of 4.5. At the same time a comparison of the exposition theme medians with their corresponding scale values also gave an average number of points lower of 4.5, with no discrepancy between the averages and an average discrepancy of only 3.6 points.

When one takes into consideration that the probable errors of the median values of the themes are approximately two points on the whole, that the scale values have probable errors of from one to two points, and that the blunders of untrained judges make for average discrepancies that are larger than would be the true average discrepancies, then the small average discrepancies found in connection with the qualities tested in the two series of scales indicate that the values for a certain quality in one kind of composition writing may, for all practical purposes, be considered equivalent to the same values for the same quality in another kind of composition writing.

At this point attention should be recalled to the fact that in rating the themes for the same quality by another scale there was a consistent tendency to rate the themes lower than the scale values derived on the basis of arranging the themes in an order of merit for the quality. This, of course, may have been entirely due to a constant error on the part of a large number of the judges to rate the themes too low. Nevertheless, in both scale making and scale testing this tendency needs to be taken into account.

When the use of the Thorndike Extension of the Hillegas Scale is discussed with teachers of English the criticism is not infrequently made that some of the themes in the scale ought to be interchanged with others. While the criticism is unquestionably absurd, it is not always an easy matter to convince the individual making such a statement that the criticism is unfounded. In order to determine how stable the scale values in the Minnesota English composition scales are and to ascertain definitely the likelihood of interchanges among the specimens of any scale, the probable errors of the distances between the specimens and the reliabilities of the differences have been worked out for one of the scales—for the structure values of the narration scale. The P. E. distances between each consecutive pair of specimens were determined for each of three groups of the original judges: the first group consisted of the thirty-five English teachers and especially capable graduate students, the second and third groups consisted of junior, senior, and graduate students in the College of Education numbering thirty-three and forty-seven respectively. The averages of the three distances for each consecutive pair of specimens were then calculated, together with the probable errors of these averages. Table VII gives the proportion of judges in each group rating each theme as better than the one immediately below it for sentence and paragraph structure, the P. E. distances for each of the three groups, the averages of the three distances for each consecutive pair of themes, and the probable errors of each of these averages. The table is read as follows: 17 out of the group of 35 judges, 27 out of the group of 33 judges, and 32 out of the group of 47 judges placed specimen 6 .17 P. E. below, 1.34 P. E. above, and .69 P. E. above specimen 24 respectively. The average of the three P. E. distances between specimens 24 and 6 is 0.62 P. E. The probable error of this average distance is .25 P. E., which means, of course, that there is one chance out of about eighteen that it might be zero instead of +.62 if the grading had been done by an infinite number of groups of judges and the average of the

TABLE VII

Specimen No.	Proportion of judges			P. E. distances between specimens multiplied by ten			Average P. E. distance multiplied by ten	Probable error of average P. E. distance, multiplied by ten
	Group A	Group B	Group C	A	B	C		
24–6	17/35	27/33	32/47	−1.7	13.4	6.9	6.2	±2.5
6–9	32/35	27/33	38/47	20.2	13.4	12.9	15.5	±1.27
9–40	26/35	27/33	33/47	9.6	13.4	7.8	10.3	±1.55
40–35	31/35	24/33	30/46	17.8	9.0	5.8	10.9	±1.94
35–29	22/35	25/33	39/46	4.8	10.3	15.2	10.1	±1.63
29–50	29/35	24/33	38/47	14.0	9.0	12.9	12.0	± .82
50–34	30/35	23/33	35/47	15.8	7.6	9.7	11.0	±1.34
34–14	26/35	18/33	40/47	9.6	1.7	15.4	8.9	±2.17
14–12	27/35	25/33	29/47	11.0	10.3	4.4	8.6	±1.13
12–41	18/35	17/33	33/47	.5	.6	7.8	3.0	±1.30
41–10	27/35	22/33	29/47	11.0	6.3	4.4	7.2	±1.06
10–58	22/35	23/33	35/47	4.8	7.6	9.7	7.4	± .77
58–26	27/35	25/33	34/47	11.0	10.3	8.8	10.0	± .35
26–51	26/35	22/33	32/46	9.6	6.3	7.5	7.8	± .50

infinite number of distances taken. (In the table each measure is multiplied by ten to make it correspond to the values assigned to the various specimens used in the scale. This however in no way changes the proportions.)

From this table it is evident that the chances that the specimen marked 94 for structure might be no better than the specimen marked 90 are approximately one out of seventeen, while the chances that it might fall just as far below specimen 90 as it now falls above it are about one out of one-thousand. The only other small difference is to be found in the case of specimen six; the chances that this specimen might become zero are approximately one out of eighteen. There are very few differences in any of the qualities in any of the scales which are as small as these. The only other difference that would be at all likely to approximate zero among the structure values of the narration scale is that between specimens marked 34 and 14. The chances that the difference here would be zero in case an infinite number of groups of equally capable judges did the rankings are, however, only six out of one-thousand. Except for the few unavoidably small steps, the reliabilities of the differences are such as to make the possibility of an interchange of specimens for this quality in this scale practically out of question, nor is there any reason to expect any smaller reliabilities in the case of any of the other qualities or scales. However, in contrasting the two sets of the P. E. distances between specimens—the one for the thirty-five judges and the one for the thirty-three judges in table VII—it is clearly evident that the reliability of the P. E. distances between specimens in a scale based on judgments of differences in a quality cannot be very great when the group of judges is less than thirty or forty, unless the judges are selected with extreme care from a very large group of supposedly competent judges.

A further test applied to this same scale indicates the stability of the series of values as well as of the total value when a different method of arriving at the values is employed. If, instead of adding the P. E. distances of the whole group of 115 judges to get the total length of the scale, one adds the averages of the three P. E. distances as determined by the three groups of judges, the total length of the scale becomes 129 points instead of 126 points, showing a difference of only three points or only a little more than two hundredths (.02) of the total length of the scale. At the same time the differences between the specimens are very small and the values of the corresponding steps are extremely close. In view of the fact, however, that the probable errors of the P. E. distances between points on the scale are relatively small, this is exactly the result that one would have expected. In fact, the probable errors of only two distances in this scale are as great as two points on the scale, while four are less than one point. A comparison of the intermediate values as determined by the two methods is shown in the following table:

TABLE VIII

Specimen No.	P. E. distances between specimens based on gradings of the 115 judges	P. E. distances between specimens based on averages of the P. E.'s of the three groups	Total P. E. distances from 0 to each point based on gradings of the 115 judges multiplied by 10	Total P. E. distances from 0 to each point based on averages of the P. E.'s of the three groups, multiplied by 10
24	0	0	0.0	0.0
6	.61	.62	6.1	6.2
9	1.49	1.55	21.0	21.7
40	.97	1.03	30.7	32.0
35	.98	1.09	40.5	42.9
29	1.02	1.01	50.7	53.0
50	1.20	1.20	62.7	65.0
34	1.07	1.10	73.4	76.0
14	.91	.89	82.5	84.9
12	.79	.86	90.4	93.5
41	.35	.30	93.9	96.5
10	.68	.72	100.7	103.7
58	.76	.74	108.3	111.1
26	.99	1.00	118.2	121.1
51	.78	.78	126.0	128.9

The three series of scales, while not possessing specimens at equidistant steps apart, do possess comparable distances, that have a marked degree of stability. While the grade which may be made in one quality is not comparable with that made in another quality, it may, nevertheless, be compared with a grade made in the same quality, not only in the same kind, but also in a different kind of composition writing. At present, however, with the arbitrary zero points, the comparison can be made only in such terms as, the distance between eighty and ninety is the same as the distance between twenty and thirty; not in such terms as, specimen ninety is three times as good as specimen thirty. With the use of these scales themes may be graded for the specific qualities which they are intended to measure with at least as high a degree of precision as they can be graded for general merit when the grading is done by competent people in both cases. Furthermore, they are designed to make possible the measurement, not of general merit, but of certain specific qualities that go to make up general merit in composition writing in exactly the same way that general merit has now been measurable for several years.

SCHOOL SUPPORT IN IOWA

E. E. LINDSAY

State University of Iowa

It is the purpose of this article to present the partial findings of a study of school finance in Iowa bearing on taxation. All property in Iowa subject to taxation is divided into three classes, (1) moneys and credits, (2) real property, (3) personal property. The taxable value of the first class is its face value. The taxable value of the second and third class is one fourth of that put upon it by the assessor. This value is by the state law the true value. It is carefully defined as that value which the property would bring in the course of trade. But the assessor is an individual resident in the locality wherein he serves and elected by its voters and property owners, and the relations existing between his valuations and the true valuations are as varied as there are different localities within the state. A further factor possibly operative is the fact that the state tax is based upon the local assessors' values. The lower therefore the community rate of assessment the lower the burden of the state tax. The local burden is not affected.

The findings of the 1910 U. S. census as stated in their bulletin on financial statistics give the taxable value of real and personal property in Iowa as 15 per cent of the true value. With the taxable value uniformly one fourth of the assessed value this figure would place the assessed value at 60 per cent. Recent investigation covering 41 of the larger Iowa cities shows only one where this rate was maintained. The average for cities and towns over the state was found to be 44.2 per cent of market value.

The rate of taxation on the first class, moneys and credits, is uniform over the state five mills. The rate of taxation on the second and third class, real and personal property, is fixed by the county boards of supervisors upon certification by the local township, town, and school boards or trustees. Hence the rate of taxation as well as the valuation is in Iowa as varied for classes two and three as are localities. Comparison of support for public work can be made for the first class by the total or per capita amounts of taxable property, for the second and third class the only true basis of comparison would be the amount of money raised divided by the total real value. Data and conclusions for Iowa towns and cities follow. Class one, moneys and credits, will be treated first. Class two and three, real and personal combined in Iowa taxation and will be so treated in section 11 below.

1. *Per Capita Moneys and Credits in Iowa Cities.*—The findings in this study are based on the data[1] for 458 Iowa cities and towns. These towns have been divided into six groups on the basis of population. Such division is for the purpose or comparison of similar communities. The limits of the groups and the number of cases considered in each are given in the first two columns of table below. The same table gives also the ranges, the quartiles, the medians, and the coefficients of variability. The order in which the groups come is determined by the size of the median figure used.

The population figures were those of the 1920 census. The table follows.

TABLE I.—PER CAPITA MONEYS AND CREDITS IN IOWA TOWNS

Size of towns	Number of towns	Per capita moneys and credits					Coefficient of variability
		Highest	Quartile 3	*Median*	Quartile 1	Lowest	
Under 500..........	234	$2,809.21	$601.59	*$340.18*	*$165.03*	$ 0.75	0.643
500 to 999..........	117	1,721.52	702.76	*463.89*	239.13	4.07	0.498
2,000 to 4,999.......	44	1,322.48	640.48	*390.93*	229.44	22.49	0.529
1,000 to 1,999.......	37	1,610.00	577.89	*379.94*	262.76	22.56	0.415
5,000 to 9,999.......	14	671.06	389.84	*290.73*	176.16	17.36	0.380
Over 10,000........	12	292.41	203.41	*117.17*	88.11	9.60	0.489

[1] The coefficient here used is that found by dividing the semi-inter-quartile range by the median.

VARIABILITY

This table indicates wide variations in that portion of school support that is derived from moneys and credits. As before stated the tax on this form of property is uniform both as to rate of taxation and assessment of taxable value. Variations in income from this source can thus be shown by the totals taxed or some uniform unit of same, such as is used in this case.

The variations within the groups are tremendous. This is indicated by the size of the coefficients of correlation and by the amount of range shown. The first group of towns those less than 500 population shows one town having a per capita moneys and credits taxable valuation amounting to 75¢ while each citizen of another town in this group is credited with $2809.21. The coefficients are also very large. Comparison of their numerical values with those of the coefficients showing variations in the support derived from other forms of property shown in the last column of Table III, even by hasty inspection shows this fact. For convenience the two columns of coefficients are given in the table below.

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[1] Acknowledgement is here made of the work of Mr. D. C. Eckert of the Pittsburgh Public Schools, on the mass of data involved in this study.

TABLE II.—VARIATIONS IN SUPPORT FROM CLASSES OF IOWA PROPERTY

Size of town	Money and credits	Real and personal
Under 500	0.643	0.335
2,000 to 4,999	0.529	0.219
500 to 999	0.498	0.261
Over 10,000	0.489	0.279
1,000 to 1,999	0.415	0.242
5,000 to 9,999	0.380	0.318

This table shows that on the average the support from moneys credits is one and seventy-nine times as variable as that from real and personal property. In no group of towns is the variation in real and personal property equal to that in moneys and credits and in one group the one is more than twice as variable as the other.

MEDIANS

The medians of the groups show two things, namely the per capita moneys and credits for the groups as a whole, and the relative support from this source in towns of the sizes indicated. The medians show wide variations. Towns of 500 to 999 have over four times as much money and credits per capita as do towns of 10,000 and over. This is explainable by the recognition of two facts. First, that the towns in the smaller group are largely made up of retired farmers, men who have made a competency and are now living on their earnings. Second, that the small town does not have the factories, or other industrial concerns to attract the labor element that constitutes such a large per cent of the city population. In general the amount of moneys and credits shown by the various groups bear a rather uniform relation to the size of town.

SUMMARY

As a summary to the findings of Table I the following four statements may be made.

1. The school support derived from moneys and credits in Iowa towns varies widely.

2. The variations are much greater than those in support derived from real and personal property.

3. The variations in this support bear no distinct relationship to the size of towns.

4. The median support increases in inverse ratio to the size of towns.

II. *Real and Personal Property.*—The data showing relations in school taxation burden on these classes of Iowa town property will be presented in two parts. The first part will show the true comparisons. The second part presents comparisons in millages levied.

TABLE III.—SCHOOL MONEY RAISED PER $1000 OF REAL AND PERSONAL PROPERTY IN IOWA CITIES AND TOWNS

Size of town	Number of towns	Per $1,000 of actual wealth					Coefficient of variability
		Highest	Quartile 3	*Median*	Quartile 1	Lowest	
10,000 and over.....	13	$12.60	$11.13	*$8.37*	$6.74	$5.90	0.279
2,000 to 4,999.......	51	16.50	9.85	*8.10*	6.30	1.95	0.219
5,000 to 9,999......	15	16.62	10.38	*7.03*	5.92	4.56	0.318
1,000 to 1,999.......	78	16.89	8.70	*6.97*	5.34	2.38	0.242
500 to 999..........	103	17.10	8.75	*6.89*	5.15	1.16	0.261
500 and over consolidated............	59	15.35	7.72	*6.10*	4.73	1.59	0.243
Less than 500......	162	12.40	7.12	*5.17*	3.65	1.25	0.335
Consolidated less than 500.........	144	12.86	6.47	*4.86*	4.07	1.18	0.247

A. *School Taxation on Iowa Town Real and Personal Property.*—The data presented in this section give what is believed to be true figures on school taxation in Iowa towns. Such figures must be based, as stated in the introduction, upon the total amount spent for schools divided by the total real value of the school district. This gives the true taxation figure for the district and is directly comparable with such a figure from any other district of any kind anywhere. The real value of the personal and real property is found by treating the total taxable value as furnished by the county auditors over the state as one fourth of the assessed value, and this assessed value as 44.2 per cent of the real value. This gives an approximate figure which for the cities of the state as a whole would, it is believed, hold true. The amount of money raised for schools is the figure furnished by the county auditor or derived by millages furnished by him. Data on 625 cities of the state or more than 79 per cent of all incorporated places in Iowa are summarized and presented in the table below. They are arranged in groups based on population. The size units of the group and the number of towns represented are shown in the first two columns. These groups are ranked on basis of the median per $1000 amount.

VARIABILITY

Perhaps the most noticeable thing about this table is the wide and uniform variability shown by towns within the separate groups. Iowa towns of the same size tax themselves on the basis of their real wealth very differently. Seldom in data dealing with school taxation does one find such uniform variabilities as is expressed by the last column of Table III. The groups themselves show a rather wide variation. The actual variation is less than that of any of the groups, being 0.138, but each figure in this last column represents many cases.

MEDIANS

The medians of this table reveal the school burden to which the taxpayers of various types of towns in Iowa are putting themselves. It will perhaps be encouraging to the retired farmer in the small Iowa town or to the farmer in a recently consolidated school district to know that he is paying on the real valuation of his property but a few cents more than one half as much as does his city brother. Nor are his children suffering for lack of proper school support. Other data in the hands of the author show that the farmer in the consolidated district who is paying but $4.86 cents per thousand dollars of real wealth is sending his children to a school where the per pupil expenditure is $142.90 per pupil, while his brother living in an Iowa city of over 10,000 population is paying $8.37 per thousand and his children are receiving schooling costing only $107.35 per pupil. The man living in cities of 2000 to 4999 in Iowa is paying $8.10 per thousand and his schools are receiving but $84.36 per child. The small town and consolidated district school of Iowa is carrying a far smaller burden of taxation and receiving a greater amount of money per pupil than the towns. The transportation items cause heavy expense for consolidation but these are at least partially offset by other city factors such as cost of property, etc.

SUMMARY

In summary of Table III the following statements may be made.

1. Towns of similar size show a marked wide and uniform variability of taxation rate for school purposes.
2. Towns differing to any great extent in size show a marked difference in school taxation burden.
3. Consolidated schools have a much lighter taxation burden than city schools.
4. In general the smaller the Iowa town the lower burden of taxation of school purposes.

B. *Iowa School Millages.*—The figures presented in this section are the actual school millages as levied for all school purposes in Iowa towns. They are not true measures of taxation because the figures upon which they are based do not represent actual value nor any uniform portion of actual value. The figures upon which the millages are assessed vary with the community. In forty-one Iowa towns the proportion of assessed value to true value varied from 63 to 13.76 per cent hence these millages are not comparable. Twice the millages does not necessarily mean twice the burden. They are presented rather as a matter of interest rather than information. They do show wide variations, but not as wide as the difference in basis of assessment of the property on which they are levied. In the absence of such material as has been presented in the foregoing section they would be valuable.

Data on 656 Iowa towns are presented in the table following.

TABLE IV.—SCHOOL MILLAGES IN IOWA TOWNS

Size of town	Number of towns	Millages for school purposes					Coefficient of variability
		Highest	Quartile 3	*Median*	Quartile 1	Lowest	
5,000 to 9,999	15	126.0	111.6	*84.7*	69.0	53.7	0.2525
2,000 to 4,999	50	194.0	98.0	*82.1*	70.8	19.8	0.1655
1,000 to 1,999	74	172.5	99.8	*77.3*	64.4	42.2	0.2290
10,000 and over	13	115.0	101.8	*75.0*	65.5	53.8	0.2415
500 to 999	111	162.0	86.5	*71.1*	58.6	11.6	0.1955
Consolidated 500 and over	60	100.0	64.15	*53.7*	46.1	32.0	0.1680
Consolidated under 500	120	99.8	57.0	*48.05*	40.9	15.0	0.1675
Under 500	213	131.6	60.7	47.0	30.9	4.3	0.3170

These figures are taken from the auditors' books in the various counties of the state. They include all local levies for school purposes. These are in Iowa made under two funds, general and school house. The towns are grouped as in the two preceding tables and gide medians with various measures of variability. The groups are ranked by size of median.

VARIABILITY

The variations shown in this table as a rule less than those shown in Table II. To the average tax payer the millage rate is the thing by which he measures his own taxes and compares what he has to pay with that of his neighbor in an adjoining town or school district. It is the commonly accepted measure of taxation, its inaccuracy as pointed out heretofore notwithstanding. If one district's school tax is 53 mills and its neighbor districts run their schools on 48 it is the general impression that the taxes in the first district are high. This is of course not at all necessarily so. In fact it might almost be said that it is not even so by implication. But this last column of Table IV does show that school districts located in towns of approximately the same size do keep their millage rate more uniform than their real taxation rate warrants. The following table showing the coefficients for the two measures of taxation makes this point clear.

TABLE V.—VARIABILITY OF TAXATION MEASURES

Size of town	Coefficient of variability	
	Dollars per $1,000 of true wealth	Millage levied
Less than 500	0.335	0.3170
5,000 to 9,999	0.318	0.2525
10,000 and over	0.279	0.2415
500 to 999	0.261	0.1955
Consolidated less than 500	0.247	0.1675
Consolidated 500 and over	0.243	0.1680
1,000 to 1,999	0.242	0.2290
2,000 to 4,000	0.219	0 1655

In not one of the groups of towns shown in Table V does the amount of variation in millage equal or exceed the variations of dollars per $1000 of true wealth. The average difference amounts to

35.5 per cent of the millage variation. The statement would seem justified therefore that *the rate of taxation of real and personal property for school purposes in Iowa towns of approximately the same size is 1.36 as variable as the millages levied would indicate.* Looking back at Table IV and noticing that in one group of towns the millages range for 11.6 to 162 while the average range for the table amounts to 108.5 mills the significance of this statement gains weight. One by means of Tables II, III, IV, and V, can get some measure of the heterogenous condition of Iowa school taxation. Making citizens is nation business. Certainly states should have some uniformity in the means of its support. But this data shows that the unit is not states or even counties but localities as small as the smallest district, each assessing its own property, levying its own taxes, and supporting its own schools in the manner it sees fit. Such a condition was at one time necessary. It is no longer and the time is coming when such matters as assessment and levying of taxes shall be given some semblance at least of uniformity.

Medians

Table IV shows that the millages levied in the various groups of towns differ widely. The lowest median millage is but little more than half as great as the highest. It is interesting to note that here again the low rate of taxation is indicated to be in the towns under 500 and in the consolidated schools. In fact there is a difference of 32.5 per cent between the highest millage levied in these groups and the lowest levied in towns larger than 500. This indication agrees with the findings shown in Table III and stated in the conclusions thereto. Not only does the millage show the same facts in these two cases but the ranking of the groups on the two bases is much the same. This is shown by the following table which presents the medians for dollars per thousand and millages. They are ranked in the order of the true rate figures.

Table VI shows that in the case of three groups of towns the relative position in school tax burden is the same whether measured by millage or real value. In only two of the eight cases is the difference in position more than one. The correlation of these two rankings by Spearman R method is 0.62, if so few cases may be said to have a Spearman Rr correlation. It may seem that this closeness of rank order would indicate that millage is a good measure of taxation. It

TABLE VI.—SCHOOL TAX BURDEN STATED IN DOLLARS PER THOUSAND OF ACTUAL WEALTH AND MILLAGE LEVIED

Size of town	Dollars per thousand real wealth	Millage levied
10,000 and over	$8.37	75.0
2,000 to 4,999	8.10	82.1
5,000 to 9,999	7.03	84.7
1,000 to 1,999	6.97	77.3
500 to 999	6.89	71.1
Consolidated 500 and over	6.10	53.7
Less than 500	5.17	47.0
Consolidated less than 500	4.86	48.05

must however be remembered that the two measures used are measuring exactly the same thing, in practically the same situations, and that the eight figures used represent a total of 656 cases. Under these conditions the rank order, of the medians at least should be exactly the same.

COMPARISON

In comparing the millages here presented with those in other states it must be remembered that these millages are based by law upon 25 per cent of the real value of real and personal property, by the findings of the 1910 U. S. census upon 15 per cent of said value, and by the results of recent investigation upon 11.03 per cent of said value. The states therefore where the assessed value is kept up to the approximate market value and where the taxable value is equivalent to the assessed value Iowa millages must be divided by 9.09 before comparison with their local millage. That is an Iowa millage of 90.9 would be comparable to a Pennsylvania millage say of 10. With these facts in mind the median millages for groups of towns here given may be used for comparative purposes, bearing in mind the following two facts: (1) that millage is the popular measure of taxation and (2) that in reality, in Iowa and the author believes in other states, it is not a true measure.

CONCLUSION

In conclusion the findings of this study may be stated as follows:

1. Income from taxation of all taxable property in Iowa varies widely.

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2. The income from moneys and credits in Iowa towns increases in inverse ratio to the size of the towns.

3. The income from real and personal taxable property in Iowa towns increases in direct proportion to the size of the town.

4. School millages on real and personal property in Iowa vary widely but are much more uniform for towns of similiar size than are the true rates of such taxation.

INTELLIGENCE TESTS AND THE MARKS OF SCHOLARSHIP MEN IN COLLEGE

J. A. CLEMENT
Northwestern University
and
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De Pauw University

It was suggested in a previous article[1] that mental tests could be of value "wherever it is the practice to admit scholarship students from secondary schools." It is one purpose of this investigation to show what bearing, if any, psychological tests have on the ratings of students, in terms of scholarship standings. Another consequent purpose is to try to discover whether the results of these general intelligence tests can be of any service in the selection of scholarship students. In De Pauw University, one hundred scholarships are provided each year until at least four hundred men will have entered the institution on this basis. At the present time about one-third of the total number have been admitted in the two years 1919–20 and 1920–21.[2] So far the men have been admitted solely on the basis of grades or standings made during their high school courses, or on recommendations made by their high school officers and teachers. During the first year the Thurstone Psychological Test, No. IV, was given, and during the second year, the Thurstone Psychological Test, 1920 Edition, was given, in each case after the middle of the scholastic year. The results for the first year have already been published in EDUCATIONAL ADMINISTRATION AND SUPERVISION, Nov. 5, 1920 (p. 434). The results of the second year are presented in this discussion. For the sake of comparison, the results, in brief, of the first year are presented here:

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[1] *School and Home Education*, Oct., 1920, p. 37.

[1] Mr. Edwin Rector is supporting 400 scholarship men in De Pauw University. Professor H. B. Longden, chairman of the committee in charge of these scholarship men has assisted in gathering this material. Gratefulness is expressed also to the registar's office of De Pauw University. Incidentally, it may be remarked relative to the psychological scores made that the man who makes financially possible these four hundred scholarships took the Thurstone Test, 1920 Edition, himself, and that out of the possible score of 182 he made a rating of 167, thereby making a psychological score of 17 more than the highest scholarship man within the group which he is supporting. Miss Ruth Martin, a Northwestern University student, assisted in the tabulation of this material.

"The maximum possible score in the Thurstone Psychological Test, No. IV, is 167. The highest score made by the first group, consisting of thirty-seven men, tested in 1919–1920 was 144 and the lowest 52. The median for the first quartile of men, or the highest nine, was 129, for the fourth quartile of men or the lowest nine, the median was 75. The median for the whole group was 101. The range for the first or highest quartile of men was 116–144, and for the fourth or lowest quartile was 52–84."

The maximum possible score in the Thurstone Psychological Test, 1920 Edition, is 182. The highest score made by the second group, consisting of eighty-four men, tested in 1920–21, was 150 and the lowest, 52. The median for the first quartile of men or the highest twenty-one was 134, and for the fourth quartile of men or the lowest twenty-one the median was 74. The median for the whole group was 97.5. The range for the first quartile of men was 116–150, and for the fourth quartile was 52–81. It may be noted that the lowest score in both tests is 52, and that the median for the second group (84 men) is 3.5 less than that of the first group (37 men).

It is also a noteworthy fact that this first group of 37 men ranked second with an average score of 102.3 in comparison with the entire groups of freshmen in thirty-two Liberal Arts colleges (De Pauw not included) who took the Thurstone Test, No. IV. The highest average score made by any one of these thirty-two colleges was 107. This was made by the freshmen of St. Joseph's College, where also thirty-seven students took the test. The lowest score made by any college group was 61.6 and the median score was 86.4. The second group of men in De Pauw University who took the 1920 Edition of the Thurstone Test also held second place in relative rank with the thirty-two college groups who took the Thurstone Test, No. IV. The average score of the second group of 84 men was 99.6 which was a little lower than that of the first group of thirty-seven men. The average score of the thirty-two Liberal Arts colleges was 86.6.

Table II represents a summary comparison between the psychological test scores, and the scholarship standings made by the combined groups, one and two, during one semester of the freshman college year. The combined group consists of 116 men. (Five students, numbered 13, 29, 37, 45, 89, were omitted because their grades were not available, either because of withdrawal or sickness.) The percentage rank indicated in Table II for the psychological test given to this group of 116 men is determined by a scale sent out with the Thurstone Psychological Test (1920 Edition.) According to this scale, a psychological test score of 150 receives a rank of 98 per cent, while a psychological test score of 40 receives a rank of 0.

TABLE I.—SECTION (A), FIRST GROUP (1919–1920), AND SECTION (B), SECOND GROUP (1920–1921); SHOWING NUMBER GIVEN STUDENTS, PSYCHOLOGICAL SCORES, AND NUMBER OF WRONG ANSWERS

Student's number[1].	Test score	Number wrong answers	Student's number[1]	Test score	Number wrong answers
Section (A), First Group (1919–1920)					
17	144	15	12	98	32
14	139	25	10	98	19
11	135	9	32	97	7
36	132	4	31	96	14
24	129	3	6	91	13
13	126	23	33	90	12
26	120	12	34	88	10
37	116	32	8	85	15
29	116	8	18	85	10
21	114	15	28	84	31
30	108	9	22	79	10
9	107	12	7	76	9
15	106	17	27	76	13
5	104	7	20	75	19
23	104	11	1	73	18
35	103	15	2	70	8
16	102	20	19	64	30
25	102	9	4	52	26
3	101	24			
Section (B), Second Group (1920–1921)					
38	150	9	80	97	9
39	147	21	81	96	17
40	143	9	82	96	24
41	142	25	83	96	6
42	140	15	84	94	21
43	139	28	85	93	22
44	137	18	86	93	28
45	136	21	87	92	18
46	136	9	88	91	35
47	134	16	89	91	30
48	134	14	90	91	40
49	133	11	91	90	32
50	133	30	92	89	42
51	129	14	93	89	25
52	128	16	94	88	25
53	124	20	95	87	38
54	122	12	96	86	9
55	120	9	97	86	6
56	119	10	98	85	18
57	118	27	99	83	20
58	116	25	100	82	27
59	113	23	101	81	11
60	113	20	102	81	13
61	113	8	103	80	21
62	113	12	104	78	29
63	112	20	105	77	29
64	111	15	106	77	17
65	109	17	107	77	13
66	109	25	108	77	21
67	107	27	109	76	15
68	106	9	110	75	24
69	104	9	111	74	22
70	103	8	112	70	41
71	102	34	113	70	12
72	102	13	114	68	28
73	101	21	115	67	9
74	101	14	116	64	19
75	100	33	117	64	22
76	99	15	118	63	43
77	99	10	119	60	23
78	98	16	120	55	47
79	98	25	121	52	17

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[1] Students in group one chanced to be numbered before their percentage rank was determined. Students in group two were not numbered until after the percentage rank was made out, and so the second group was numbered consecutively from 38 on.

Table II may be interpreted in the following way. For example, the student numbered 38 received a score of 150 in the psychoclogial test. This score, according to the scale sent with the Thurstone Test (1920 Edition), gave him a percentage rank of 98 per cent. This same student made 34 points in scholarship, during one semester of his freshman college year, and so according to the method described in the paragraph following, he received a percentage rank of 63 in scholarship. By interpreting Table II in this manner, it may be seen that a rather large percentage of the first quartile of students (highest 29), according to the psychological test, received a relatively large number of points in scholarship standing during one semester of the freshmen college year, while the greater percentage of the fourth quartile of students (lowest 29), according to the psychological test, received a relatively small number of points in a scholarship standing.

The percentage rank in scholarship was determined as follows: At De Pauw University, students are graded by the letters A, B+, B, P, C, and F. A is a grade of between 95 and 100, B+ of between 90 and 95, B of between 80 and 90, and P of between 70 and 80. In making out the relative standings of the students A has the value of three points, B+ of two points, B of one point, P of no points, while C is conditional and F is failure. Some college subjects are taken three days each week during the semester, and others five days and so forth, respectively. In the group of 116 men the highest number of hours taken by any student was 19. Of this 19 hours, one hour which is taken up by gymnasium work does not count for points, in scholarship standing. One student made A in all of his subjects; therefore, his scholarship rank was 54 points, that is, by counting each of his 18 hours as three points. One student failed to make any points and so received 0 in scholarship rank. Each college point was given a value of 1.85. This was determined by dividing 100 by 54. The student with fifty-four points was ranked 100 per cent. The student with no points was ranked 0, and so forth, respectively. (Whole numbers were used in the percentage rank of points. When a percentage rank was found to be one-half or above, it was raised to the next whole number, for example, a student with a percentage rank of 55.5 was given a percentage rank of 56, while a student with 81.4 was given a percentage rank of 81.)

The correlation between the psychological scores and the points made in college, during one semester of the freshman year, was worked

TABLE II.—SHOWS THE PSYCHOLOGICAL SCORES AND COLLEGE POINTS MADE BY 116 MEN, REPRESENTING THE COMBINED GROUPS ONE AND TWO

Student's number	Test score	Points in college	Percentage rank		Student's number	Test score	Points in college	Percentage rank	
			Test	Points in college				Test	Points in college
38	150	34	98	63	79	98	14	60	26
39	147	22	97	41	32	97	42	59	78
17	144	30	97	56	80	97	42	59	78
40	143	48	96	89	31	96	28	58	52
41	142	29	96	54	81	96	13	58	24
42	140	47	95	87	82	96	34	58	63
14	139	11	95	20	83	96	29	58	54
43	139	28	95	52	84	94	12	55	22
44	137	42	94	78	85	93	30	53	56
46	136	44	94	81	86	93	20	53	37
11	135	44	94	81	87	92	7	51	13
47	134	42	93	78	6	91	14	50	26
48	134	39	93	72	88	91	20	50	37
49	133	41	92	76	90	91	8	50	15
50	133	11	92	20	33	90	33	48	61
36	132	12	92	22	91	90	27	48	50
24	129	43	90	80	92	89	6	46	11
51	129	41	90	76	93	89	33	46	43
52	128	38	90	70	34	88	28	44	52
53	124	35	86	65	94	88	2	44	4
54	122	29	85	54	95	87	6	43	11
26	120	30	83	56	96	86	48	41	89
55	120	36	83	67	97	86	32	41	59
56	119	48	82	89	8	85	8	40	15
57	118	21	81	89	18	85	35	40	65
58	116	38	79	70	98	85	19	40	35
31	114	17	77	31	28	84	16	38	30
59	113	16	76	30	99	84	20	36	37
60	113	36	76	67	100	82	16	34	30
61	113	29	76	54	101	81	12	33	22
62	113	35	76	65	102	81	9	33	17
63	112	25	75	46	103	80	17	32	31
64	111	33	74	61	22	79	18	30	33
65	109	27	72	50	104	78	3	29	6
66	109	28	72	52	105	77	4	27	7
30	108	41	71	76	106	77	20	27	37
9	107	54	70	100	107	77	24	27	44
67	107	27	70	50	108	77	22	27	41
15	106	15	69	28	7	76	40	25	74
68	106	33	69	61	27	76	23	25	43
5	104	26	67	48	109	76	18	25	33
23	104	16	67	30	20	75	21	23	39
69	104	17	67	31	110	75	42	23	78
35	103	19	66	35	111	74	17	21	31
70	103	23	66	43	1	73	13	20	24
16	102	22	65	41	2	70	38	16	70
25	102	42	65	78	112	70	7	16	13
71	102	20	65	37	113	70	22	16	41
72	102	29	65	54	114	68	8	14	15
3	101	28	63	52	115	67	24	13	44
73	101	30	63	56	19	64	23	9	43
74	101	35	63	65	116	64	4	9	7
75	100	26	62	48	117	64	10	9	19
76	99	20	61	37	118	63	0	8	0
77	99	34	61	63	119	60	20	6	37
10	98	27	60	50	120	55	4	3	7
12	98	17	60	31	4	52	29	2	54
78	98	36	60	67	121	52	3	2	6

out. The correlation, according to the Pearson method was found to be 0.523 with a probable error of 0.017. Another grouping of 107 men, consisting only of those students who had taken Foreign Language and English was made. In this instance the correlation between the psychological scores and the points made in college was 0.515 with a probable error of 0.047.

The students who had been in the first quartile, or the highest 29, according to the psychological test made a total of 952 points, those in the second quartile (29 men) made a total of 814 points, those in the third quartile (29 men) made a total of 632 points, while those in the fourth quartile, or the lowest 29, made a total of 495 points. It is worthy of comment that the first or highest quartile made 457 points or an average per capita of 15.75 points more than the fourth or lowest quartile. It is, also, worthy of comment that the student who made 54 points in scholarship standing was in the upper third of the second quartile in the psychological test while the student who made no points in scholarship standing was in the lowest quarter of the fourth quartile in the psychological test.

The results of this investigation seem to compare favorably with other experiments that have been carried on along similar lines. A study, carried on by W. M. Procter, relative to the use of psychological tests in the high school leads him to make the conclusions, namely, "that group mental tests afford the only means of meeting the demands for a speedy and reliable method of measuring the mental abilities of large groups of people." The results, so far, of the De Pauw investigation would tend to bear out this statement. E. L. Thorndike in one of his investigations found that in a certain college in the case of eleven boys reported to the dean's office for inability to do college work, in the early weeks of their freshman year, all had notably low scores in the intelligence test. Furthermore, he found that, in the case of a score or more so reported, as a result of the mid-term records, all but two had low scores in the intelligence test. The situation at De Pauw seems comparable, in view of the fact, that the students of the first psychological quartile made a total of 371 points more than those of the fourth quartile. L. L. Thurstone from the results of his investigations has reached the conclusion "that mental tests occupying an hour's time predict freshman scholarship more accurately than the marks for the second semester can be predicted from the marks of the first semester." He goes on to say that "if the mental test had been a criteria for admission to college, in this certain case there would have been four failures instead of eleven." L. M. Terman's slogan is "a mental test for every child."

In the light of previous investigations, together with the results of this study, it seems reasonable to hold that psychological tests can well be made a criteria for choosing scholarship men together with the marks and recommendations made by high school teachers and officers. Just what the correlation is between the marks in high school subjects given by high school teachers and the score made in psychological tests, is to be the purpose of a future study with this same group of scholarship men. It seems justifiable on the strength of this study to suggest that psychological tests might be used alone as a fairly reliable criterion in the selection of superior scholarship students. At least the findings seem to warrant the conviction that psychological tests can be used advantageously to supplement other criteria used in the selection of superior scholarship students. To say the least, the relative importance of psychological scores in conjunction with estimates made by high school officers in recommending scholarship students is apparently worthy of serious consideration.

THE USE OF EDUCATIONAL MEASUREMENTS IN THE TRAINING DEPARTMENT OF THE STATE NORMAL SCHOOL, ELLENSBURG, WASHINGTON

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The training departments of normal schools are generally more or less subject to the popular criticism that they sacrifice the so called fundamental subjects and emphasize the frills and fads of education. Our school has not been exempt from such criticism.

What some critics call frills and fads we call plays and games, civic participation, citizenship building, health work, etc. In our school the project type of work predominates. For example, the eighth grade edits and prints a newspaper, the seventh grade runs a movie, the sixth grade a bank, the fourth grade a supply store and this year the fifth grade has edited a little booklet on citizenship. While these projects are not for the purpose of teaching language and arithmetic, much language and arithmetic are found necessary to make the activities successful.

We also believe that the elementary school children should become well grounded in citizenship knowledge of reading, writing, spelling, and arithmetic. Whether or not the standard tests and scales really measure the right amount and quality of these subjects that should be thoroughly mastered is debatable, but that they do give us perhaps the best gauge we have at present of what the children in the various grades should know has been taken for granted.

Tests and scales were used in writing, spelling, reading and arithmetic, (1) for evidence that the grades of the training department were keeping up to standard, (2) to act as a check to the teachers in matter of over teaching and as a warning when more teaching was needed, (3) to make the pupils intelligent about their own progress and achievement, (4) for the purpose of class and individual diagnosis in order to improve the instruction and economize time.

The population of our school is not as stable as that of the ordinary public school. We lose a certain number each year whose parents do not entirely approve of student teachers or are fearful that the three

R's are being neglected. Children who have become dissatisfied with the regular grade school or whose parents approve of the policies and practices of the training department shift to us. However the average intelligence of our pupils is above normal. According to Terman approximately 60 per cent of children are found in the normal group, 20 per cent above and 20 per cent below. During the past school year the training school showed 50 per cent in the normal group, with 31 per cent above, while only 19 per cent were below.

The Trabue Completion Tests, Series B and C, were given early in the year. (See Table 1.) The results correspond with the results of the mentality tests, being uniformly high and the median of each grade being above the standard median.

TABLE I.—TRABUE COMPLETION TEST

Grades	II	III	IV	V	VI	VII	VIII
Standard	3	6	8	9.6	11	12.3	13.3
Median	7.1	8	8.56	10.33	13.29	14.18	14.29
Deviation above standard	4.1	2	.56	.73	2.29	1.8	.99

The Monroe Silent Reading Test was given to our children in November, the same time that it was given to all the children of the state. The results are given in Table II. It will be noted that all but the fifth grade were above or on the state medians in com-

TABLE II.—MONROE SILENT READING TESTS

	III	IV	V	VI	VII	VIII
Rate:						
State standard	45	67	84	94	102	107
Training school	44	67	61	81	81	146
Comprehension:						
State standard	4.4	9.2	13.7	16.8	19.7	22.3
Training school	5.6	11.4	11.4	19.2	19.5	25.7

prehension and that all but the fifth and seventh grades were above or on the state median in rate of reading. This is what we would expect from the fifth grade because of its low average mentality.

Unfortunately this test was not repeated.

Our children were uniformly low in writing at the beginning of the year. Until Christmas they had regular writing instruction under a special writing teacher, who used the Palmer system modified to conform to the Freeman findings. The children preferred to use the Frasier Scale to either the Gettysburg or Thorndike so their progress was measured by that scale. The children were divided into groups on the basis of ability to write. They measured their writing themselves at stated intervals and were regrouped after each measurement. As fast as pupils scored above the standards for their grade in speed and quality they were excused from drill in writing.

Through some oversight the writing records which were kept bulletined in the respective grades were lost. However they showed very much the same results as the data given later in arithmetic.

The basal source for spelling has been the Ayres Scale. Other words were studied as needed. The report on spelling in the Eighteenth Year book served as a guide in the teaching of spelling. Spelling progress was measured by the Ayres Scale. The standard was reached by nearly all the grades by March. The medians then remained slightly above the standards through April and May.

TABLE III.—SPELLING RECORD

Grade	III	IV	V	VI	VII	VIII
October	15.83	35	29.5	48.3	52.5	46.16
December	20	48.12	37.5	78.75	97.5	83.33
March	70.8	55	44	78.35	91.5	92
April	82.5	81.7	70.3	62.5		
May	86.67	80	77.45	71.55	92.5	98.33

Spelling deviation from standard at end of year

Grade	III	IV	V	VI	VI	VIII
	7.67	1	−1.5	−7.35	13.5	19.33

Number processes were measured by the Woody Series B tests. Table IV shows the per cent of pupils on or above the Woody standards in October. Table V shows the per cent of pupils on or above the standards in June.

Table IV.—Per Cent of Pupils on or Above Standard in October

Grades	III	IV	V	VI	VII	VIII
Addition	16.7	19.4	13	20.7	0	8.7
Subtraction	21.9	9.7	8.7	3.5	16.2	30.5
Multiplication	71.9	22.6	20.9	0	0	0
Division	70	30	35.8	25.7	3.2	4.4

Table V.—Per Cent of Pupils on or Above Standard in June

Grades	III	IV	V	VI	VII	VIII
Addition	88.5	77	40.8	91.7	27.6	25
Subtraction	92.4	84.6	55.6	95.9	75.9	81.3
Multiplication	100	84.7	31.3	75	27.6	25
Division	96.2	84.6	55.6	95.9	10.4	6.3

Marked gains are evident in every grade. The third grade shows the highest per cent on or above standard both in October and in June. Grade III was mentally the most homogeneous group,. the range in both mental and chronological ages being very slight. This made it easy to bring practically every one to or above the median. The fourth and sixth grades show the largest per cent of shifting from below standard to or above, while the fifth, seventh and eighth show the least. The mentality of the fourth and sixth grades was high. The seventh grade presented a wide range of mental ability and was extremely hard to instruct. The eighth grade, although very high in mentality, was handicapped by the necessity of studying for a compulsory state examination, which heretofore has tested little of citizenship knowledge and much that is academic. The fifth grade, with a mental age median one year below that of the chronological age median and with mental ages ranging from eight years nine months to thirteen years nine months, was difficult to instruct and remained constantly low in arithmetical processes as well as in spelling, reading and writing.

Table VI shows the average deviation from the standard at the end of the year in each grade. Note that the fifth grade remained slightly below standard. The seventh and eighth grades, hampered by preparation for an academic examination, were not able to make a positive deviation in all four processes. Table VII shows the points of deviation from the standards at the end of the year.

TABLE VI.—POINT OF DEVIATION FROM STANDARD AT END OF YEAR

Grades	III	IV	V	VI	VII	VIII
Addition	2.5	2	−.4	2.17	−.8	−1.92
Subtraction	1.89	.9	.36	2.13	1.14	.21
Multiplication	2.5	1.8	−.45	.75	.8	−1.6
Division	2.37	2	.43	2.4	−1.9	−1.4

If each grade is divided into three groups on the basis of the May scores and the points of gain found by subtracting the October scores from them, a result similar to that of Mr. Henmon, reported in the Journal of Educational Research for February 1920, is obtained. With the exception of grade four the group that was high in May made the greatest gain and the low group the least.

TABLE VII.—AVERAGE GAIN. GROUPS DIVIDED ON BASIS OF MAY SCORES

Grades	III	IV	V	VI	VII
Group I	16.11	10.85	10.17	20.5	10.42
Group II	9.75	14	7.42	18.5	10.42
Group III	8.44	8.28	5.67	12.63	9.57

Mr. Henmon says, "The few studies that have been made have shown marked differences in improvement and, moreover, they have shown that individual differences tend to increase rather than to decrease with equal amounts of practice. The data in this study (Mr. Henmon's) point unmistakably to the same conclusion." If

Mr. Henmon had ranked the pupils of the school he studied on the basis of the September scores, and had found the gross gains for each of the groups, his data would have shown in two grades the same result that he obtained by ranking by the May scores. In the other grade the high group would have been lowest. However, there were only twelve in this grade. His data from just three grades with from twenty to twelve in a grade is not sufficient to draw conclusions from, but Mr. Henmon is probably right when he says the high May groups made the largest gains and the low groups the smallest because of equal amounts of practice.

Average scores on basis of October scores. (Mr. Henmon's data)

Average gross gain	IV	V	VI
Group I	11	29	32
Group II	5	35	30
Group III	0	33	27

However, when our children are ranked on the basis of the October scores, the gross gain obtained is in reverse order to those obtained when ranked on the basis of the May scores. With the exception of the fifth grade, which shows about one point gain for the high group over the gains made by the other groups, the largest gain was made by the low groups and the smallest by the high groups. See Table VIII.

TABLE VIII.—AVERAGE GAIN. GROUPS DIVIDED ON BASIS OF OCTOBER SCORES

Grade	III	IV	V	VI	VII
Group I	6.67	9.71	8.33	13.67	8.57
Group II	9.56	11.125	7.28	19	10
Group III	13	14.14	7.67	19.37	11.85

How was this result brought about? We used standardized tests for diagnostic purposes. We were indeed exceedingly cautious about allowing children and teachers to be carried away by the desire to excel in scores. Our policy at all times was to bring as many children, who were mentally able, up to or slightly above the medians set for their grades. As soon as children achieved this, drill was cut to the minimum. In arithmetic use of processes in connection with their other activities was given greater emphasis, or children were given other work more valuable to them along various lines, or they were given individual projects. The attempt was made to stop drill of any kind, whether in arithmetic, writing, spelling, or language, when an amount of technic was learned that was needed by the children in their various projects and relations both in and out of school. Hence those who were much below the medians continued to have the largest amount of drill and the low groups would show the greatest gains.

In the high group, where little drill was given, there is no appreciable slump from month to month. The high group remained continuously farther above the class average each month than the low group did. Table IX shows this data for the third grade.

TABLE IX.—AVERAGE SCORES FOR GRADE III

Group	October	December	March	April	May
I	21.5	22.1	22.78	26.67	29.37
II	18	20.5	20.12	25.12	28.67
III	15	20.14	16.5	24.6	28

The deviations from the standards in the four fundamentals for each month are given is Table X for grades, III, IV, V, and VI. The pupils of the third grade and sixth grades show the highest positive deviation in the last month. The fourth grade remains about the same for the last two months, but the fifth does not rank as high in May as in April.

In points of deviation the gains from month to month show, on the whole, the smallest gains between December and March. No tests were given between the two months, the Christmas vacation, and several enforced Flu vacations interfering with continuous work. Generally the gains were greatest between March and April. In no case were the gains of the last month the most. In only the sixth grade were the gains between October and December largest. From October to December the regular room teachers had charge of the work—at all other times student-teachers were teaching arithmetic. The conclusion is that the student teaching did not result in a lowering of gains in arithmetic.

Table X (*a*).—Deviations from Standard. Grade III

	October	December	March	April	May
Addition	−1.6	−.5	−.2	1.32	2.5
Subtraction	−1	1.15	.83	1.5	1.89
Multiplication	.08	.96	.625	1.68	2.5
Division	.75	1.4	.54	1.44	2.37

Table X (*b*).—Deviations from Standard. Grade IV

	October	December	March	April	May
Addition	−1.9	.2	.37	1.2	2
Subtraction	−1.63	.13	.81	1	.9
Multiplication	−1.35	−.75	.75	2.5	1.8
Division	− .8	−.57	1.2	2.17	2

Table X (*c*).—Deviations from Standard. Grade V

	October	December	March	April	May
Addition	−3.3	−2	−.6	−.25	−.4
Subtraction	−1.5	− .5	−.3	.43	.36
Multiplication	−2.4	− .7	−.67	.43	−.45
Division	−1.2	− .6	.11	.43	.43

Table X (*d*).—Deviations from Standard. Grade VI

	October	December	March	April	May
Addition	−1.17	− .25	1.14	.7	2.17
Subtraction	−1.9	.36	1.66	2.14	2.13
Multiplication	−5.1	−1.42	−1	−.5	.75
Division	−1.4	.70	− .25	1.5	2.4

Table XI shows the grades divided into three groups on the basis of the Terman I.Q.'s. The group average in total points for May and also the gain in points between October and May are shown.

TABLE XI.—AVERAGE SCORES AND AVERAGE GAIN. (DIVIDED ON BASIS OF I.Q.'S INTO THREE GROUPS)

Grades	III	IV	V	VI	VII
I. Group average	29.9	35.14	42.5	56.87	59.85
Average gain	11.75	19.7	6.8	13.75	10.28
II. Group average	27.6	37.6	43.28	59.37	52.4
Average gain	9.9	10.9	9.7	18.37	9
III. Group average	25	30.4	35.5	57.37	54.57
Average gain	8.9	8.6	6.3	19.5	11.14

Not even on the basis of mentality do the high groups consistently make the greatest gains, although there is a tendency in that direction. This again, is in all probability due to the lessened drill given to those who were already high enough and to the more efficient methods used in instruction of those whose standings were low.

An interesting study of overlapping could be made with the data available. In both comprehension and rate of reading grades four and five have about the same range of abilities, extending all the way from below third grade standard to far above the fifth. We have endeavored to meet the situation by grouping within the grades and to a very limited extent by arranging for parallel classes, so that a child, no matter to what grade he is assigned, may work with a a group of his own ability in a subject.

GENERAL SUMMARY

We have made no pretense of working up the data we have presented with absolute exactness. The handling of the data is crude but the results have functioned.

The children enjoyed taking the tests, as was evidenced by the spontaneous clapping when Miss Smith, who gave them, entered a room for that purpose. The meaning "median" was understood and each child became interested in reaching the median for his grade.

The examiner, teachers and children, analyzed class errors and individual errors after each test and adjusted the instruction to meet the new demands. Not only an adjustment of instruction was made but a shifting of children from one group to another on the basis of of the last test was made each month.

In some instances, where the I.Q. of the child was high, the health good, and the score in the tests decidedly above median, promotions were made to the next grade.

There was a large amount of overlapping, which we tried to take care of by grouping within the grade and by adapting instruction to the needs of the different groups, by promotions and demotions, and by arranging for parallel classes, so that throughout the lower grades or higher grades all children of equal attainment could work together.

The data show that a training department in which student-teachers do most of the teaching can become as efficient in the so called fundamental subjects as any other school; that the project type of work does not handicap them in this attainment; and that careful readjustment of instruction and grouping on the basis of the tests (together with intelligence ratings) will prevent over drill with these children who do not need it and thus free them for more important work, and will give opportunity for more drill for those who require it.

A PRACTICAL NEED FOR SOCIAL-INDIVIDUAL PSYCHOLOGY IN HIGH SCHOOL EDUCATION

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No lengthy argument is necessary to convince one of the importance of social-individual psychology. If only to eradicate the erroneous notions relative to mind and human behavior, the maintenance of such a study in the high school curriculum is justifiable. Everywhere—among the so-called educated as well as among the illiterate and ignorant—we find a deplorable existence of ideas relative to mind and human behavior which are not only unsound but which are greatly detrimental to the success and happiness of the individual and to the welfare of society in general. The "average person" knows far more about the principles of operation of the machine he drives than he knows about his mental equipment. When he needs information about his Pierce Arrow he never thinks of going to an astrologist or even to the country blacksmith; but when he desires enlightenment concerning his individual self and his social relationships he is as likely to consult a phrenologist, or physiognomist, or a fortune teller as he is to consult someone who can be of any real service to him. This same "average person" who knows so little about the principles of mental law is equally ignorant as to who are the most authorative specialists in the field of psychology. In fact, the names of the least authorative are most prominent in popular literature and attractive advertisement. In time of need, therefore, our "average person" who has seen so frequently the names of these pseudo-psychologists in connection with startling declarations of ability to accomplish the miraculous pays his hard earned cash and receives in return what is worse than worthless. Our "average person" neither understands himself nor those about him. He goes through life not knowing his capacities and possibilities for development and ignorant of the principles of mental efficiency. He has not the psychological background either for interpreting or for appreciating the actions of his fellows. Because of his ignorance of the psychology of social groups he confines his friendly feelings and services to limits which are extremely small and assumes an antagonistic attitude toward the extra-social groups of society. Because of his uncritical belief in the mysteries of "souls" he sets up religious standards and takes on intolerant and punitory attitudes toward "heretics." In fact, volumes could be filled with the erroneous notions of mind and social behavior which from times immemorial have filled the world with destruction, bloodshed, and sorrow. Surely, then, a more prominent place should be given in public education to the correction of such errors and to the development of more wholesome attitudes of the individual toward society.

The replies recently received from a questionaire which had been sent to fifty of the better American psychologists should be of special interest to teachers, patrons, and curricula makers of our secondary schools. The data contained in these replies were classified under three heads; first, some of the erroneous notions relative to mind and human behavior which may be detrimental to the success and happiness of the individual who possesses them; second, some of the important facts relative to mind and human behavior which, if possessed by the individual, would tend to make him a happier and a more cooperative member of society; and, third, suggestions as to suitable literature and methods to be used in bringing about among high school seniors and junior college students a practical understanding of mind and human behavior. The significant results of this questionaire are briefly summarized in this aritcle.

ERRONEOUS NOTIONS RELATIVE TO MIND AND HUMAN BEHAVIOR

The psychologists have included the following notions under this head: "magical or hocus-pocus notions of mind promoted by prominence of spiritistic stuff, by popular expositions of the sub-conscious mind, and by advertisements of various schemes for developing one's 'psychic' powers," "pseudo-psychologies, subjective-objective mind stuff, New Thought, telepathy, Kathryn Blackfordism, get-rich-quick schemes of character analysis through physiognomy, etc.,—theories scientifically unsound and giving erroneous ideas of possibilities of controlling self and others," "false ideas regarding habits; false ideas growing out of the older faculty psychology; wrong ideas of memory culture, especially those growing out of popular literature; wrong attitudes toward such subjects as illusion, hallucination, insanity, spiritualism, hypnosis, and telepathy," "mystical concepts of the mind, superstitions concerning dreams, and the idea that psychology can do the miraculous;" "fatalistic notions concerning heredity and environment;" "the notion that all men are created equal and spiritually free;" "that all men are created equal, and that everyone can become whatever he has ambition to be;" "that volition is capable of effecting a more sudden change than it can;" "that mental traits can be changed by desire, prayer, and legislation;" "that habits formed by many repetitions can ordinarily be broken quickly;" "that the individual is independent of his social environment;" "that brain capacity is indicated by bumps on the head, etc.;" "that every individual has untold possibilities waiting to be developed in him;" "false ideas about the limits of one's capacities leading to a stagnation or stoppage of growth early in life;" "the feeling that failure in one direction is reason for discouragement;" "the notion that successful men usually become so through pull or accident;" "that we can rely on becoming inspired by going to sleep;" "that people can hide their real character for any great length of time;" "that violating a law is a clever thing to do if one can only 'get away with it';" "the idea that insanity and mental deficiency are synonomous;" "that the mind is any more mysterious than any other machine;" "that conscious motives are the usually the whole determinants of conduct;" "that criminals are merely perverse and wicked," "that maternal impressions are of any serious consequence;" "that geniuses are always freaks;" "that the mentally precocious are unstable and neurotic;" "that the opinion and action of the majority are necessarily correct;" "the notion that the world owes me a living;" "that instincts are base and not to be tolerated;" "that instincts are sacred and not to be tampered with even when they need modification or control or repression."

IMPORTANT FACTS RELATIVE TO MIND AND HUMAN BEHAVIOR

The psychologists have given the following as important facts which, if known by the individual, would tend to make him a happier and a more cooperative member of society: "dependence of mental efficiency on physical health and vigor;" "the doctrine of evolution and the genetic point of view;" "origin and control of instincts in daily life;" "that all behavior results from definite, though complex causes (whether we know them or not) and hence is not capricious, but potentially controllable;" "concept of causation in human behavior, that is, relation of stimulous, connection, and response;" "behavioristic point of view of mind and human action;" "mechanism and laws of heredity;" "an elementary knowledge of original tendencies and individual differences;" "a knowledge of the biological curve of distribution of individual capacities;" "the significance of the variation of mental levels to the problems of education and democracy;" "that whatever we do to another person should be in harmony with valuing him as a precious and immortal soul; but that, in every instance, we ought to treat him as a machine, and be as merciful toward him as we are toward a machine;" "the psychological laws of association and habit formation;" "the fact that the mind grows by what it feeds upon—by one's experiences;" "good general notion of the central nervous system and the relation of the sense organs and their stimulation to final intelligence;" "that there is a very close relationship between intelligence and success;" "that, given reasonable opportunities, mental capacities and talents of all kinds are sure to express themselves;" "that most of us have more capacity than we make use of;" "that there is a strong tendency for capacities which are evident at an early age to remain through maturity;" "that human beings like all other forms of animal life tend to re-produce their own kind;" "that consciousness is but a small part of mentality;" "that abnormal behavior suggests abnormal mentality;" "that to learn and to form new habits does necessarily die out after childhood and adolescence—though the likelihood of such learning decreases;" "the fact that the individual mind is largely a social product;" "that the will has no greater freedom than the mind for it is only the mind in decisive action, both being dependent on original tendencies, previous experience, and present mood;" "that the scarcity of scientific information relative to other people's souls should make us tolerant indeed toward the advocates of other religions;" "that the general principles of human nature are everywhere pretty much the same and that under normal conditions the fundamental moral virtues and ideals will be very similar;" "that the artificial conditions of a highly civilized people and the operation of the organic laws of heredity are such as to encourage the survival of the *un*-fittest resulting ultimately in mental and national decadence—that artificiality must necessarily balance artificiality if the upward trend of our civilization is to be secure;" "that old fogyism is an attitude of mind which can be avoided by the development of many sided interests;" "that man is fundamentally irrational, *i.e.*, he acts usually from motives which are instinctive, emotional and impulsive, or on suggestion—not from logically reasoned out judgments (though he may); also that he tends to post-rationalize his acts—find reasons to make them appear logical when he would have acted the same way anyway;"

"that the antagonistic attitude which dissimilar peoples have for each other are due more to absurd racial prejudices based on primitive instincts and emotions than to logical reasonings;" "that the superior civilization possessed by the Caucasian race can be accounted for without assuming that the race is innately superior;" "that by knowing the principles of crowd behavior one may thereby be more safely on guard and less likely to be carried away by the unreasoned behavior of crowds;" "that uncritical veneration as well as uncritical disparagement are two mental attitudes toward the past which should be avoided."

DESIRABLE REFERENCE SHELF FOR SOCIAL-INDIVIDUAL PSYCHOLOGY

From the books recommended by psychologists and sociologists, the writer has selected the following because of their fitness for use in advanced high school and junior college classes. The writer has used most of these in such classes and has found them exceedingly interesting and useful. The books listed, however, are not all of equal value. Some of them are of such a nature as to be usable in their entirety. Others are useful only in part. Some of the chapters for example, in McDougall's "Is America Safe for Democracy" would be extremely confusing and in many cases actually misleading in the hands of immature high school students. The last chapter in his book, however, has great value for the purposes of a course in social-individual psychology. The list of books given in this article is only medium in extent and should be enriched by the addition of other well selected literature. The list is arranged somewhat in logical order of use as follows: Conklin, Edwin Grant, "Heredity and Environment;" Conklin, Edwin Grant, "The Direction of Human Evolution;" Boas, Franz, "The Mind of Primitive Man;" Jewett, Frances G., "The Next Generation;" Jordon, David S., "The Heredity of Richard Roe;" Edman, Irwin, "Human Traits and Their Social Significance;" Thorndike, E. L., "The Original Nature of Man;" Mason, O. T., "Origins of Invention;" Tyler, I., "Primitive Culture;" Semple, Helen C., "Influences of Geographic Environment;" Thomas, William I., "Source Book for Social Origins;" McDougall, William, "Is America Safe for Democracy;" Cooley, Charles Horton, "Social Organization;" Weeks, Arland D., "The Psychology of Citizenship;" Goddard, Henry H., "Intelligence Levels and Human Efficiency;" Bogardus, Emory, "Introduction To Social Sociology;" Bogardus, Emory S., "Social Psychology;" Wallas, Graham, "Our Social Heritage;" Pillsbury, W. B., "Essentials of Psychology;" Meyer, Max, "The Psychology of the Other One;" Peters, Charles C., "Human Conduct;" Watson, J. B., "Psychology from the Standpoint of a Behaviorist;" Hunter, Walter S., "General Psychology;" Thorndike, E. L., "Human Nature Club;" Thorndike, E. L., "Education, a First Book;" Angell, James R., "Chapters from Modern Psychology;" James, William, "Habit also Instincts from his Principles of Psychology;" Seashore, Carl E., "Elementary Experiments in Psychology;" Munsterburg, Hugh, "Business Psychology;" Stratton, George, "Experimental Psychology and Culture;" Terman, Lewis M., "Intelligence of School Children;" Woodrow, Herbert, "Brightness and Dullness in Children;" Starch, Daniel, "Educational Psychology;" Munsterburg, Hugo, "On the Witness Stand;" Kitson, Harry D., "How to Use Your Mind;" Whipple, G. M., "How to Study Effectively;" Hollingworth, Harry L., "Vocational Psychology;" Luck, Henry C., "Employment Psychology;" Scott, Walter Dill, "Increasing Human Efficiency in Business;" Scott, Walter Dill, "Influencing Men in Business;" Hollingworth and Puffenberger, "Applied Psychology;" Hollingworth, Harry L., "Advertising and Selling;" Breitwieser, J. V., "Psychological Advertising."

A BOOK ON THE HIGH SCHOOL SCHEDULE

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One of the most important and difficult tasks in the field of high school management is that of effecting an adequate schedule organization. This is a problem which has had very little recognition from professed students of education though it is prominent in the minds of all those who have the responsibility of actually carrying on the management of a secondary school. No university course has ever been devoted to this branch of school management and very little has been written about it. The few articles which have appeared in periodicals are mentioned in the footnotes to Principal F. W. Johnson's article "The Schedule of Recitations" in the March, 1921, School Review, pp. 216–228.

Finally we have a little book on the subject by Headmaster M. W. Richardson.[1]

The author says he attempts "to set forth fundamental considerations....that underlie all program making." As a matter of fact he gives a good "case" description of procedure in Girls' High School in Boston. This represents one particular type of situation and a particular procedure for working in it. Girls' High School has 2100 pupils, is organized once a year, has six periods a day, has no household or mechanic arts subjects, offers English history, mathematics, sciences, foreign languages, drawing, and a number of commercial subjects, besides music and physical training, and has very few double period assignments. Most of the items just mentioned make for relative simplicity, but an element of complexity is found in the fact that most subjects are taught only four days a week, but some three or five times, some twice or once.

The procedure is peculiar in making use of an unusual type of "block" system. The most common and simple type of "block" in a schedule is a specific single period daily, *e.g.* the second period daily, the third period daily, etc. A Richardson block requires that a given recitation section meet at a *different* period each day, *e.g.*, a certain French section will meet the first period Monday, the fifth period Tuesday, the third period Wednesday, and so on. This is supposed to distribute the fatigue burden and also make "last" periods available for field trips and such purposes in more than one subject. It would have been better if the author had eliminated the varying-period block from the main body of his essay and merely referred to it as a possible form in an appendix, footnote, or special paragraph. I am afraid some readers will find this feature so intricate and foreign that they will be deterred from deriving from the book the help that it ought to give them. Anyone who does not wish to adopt this type of block can read the book through and substitute the word *period* everywhere for *block*. Everything that Richardson says about the manipulation of blocks would be equally true of simple periods in the more usual types of schedules. The block Richardson describes not inappropriately as the "horizontal variable."

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[1] Richardson, Myron W.: "Making a High School Program." Yonkers, N. Y.: World Book Co., 1921, pp. vii + 27.

The most characteristic feature of Richardson's scheme is really the use of the "class section" as the unit in the process of effecting the organization. He calls the class section the "verticle variable." For example the members of the fourth year class are distributed among an appropriate number of "class sections" designated 4a, 4b, 4c,......etc. Later a schedule is devised for each class section and the combination of all the class section schedules constitutes the general schedule in its entirety. Moreover, when the pupils' schedules are made all the members of a given class section are given the same schedule arrangement, *viz.:* the one provided by the class section schedule designated by their section letter. Now the class section as a unit in organizing procedure is useful to the extent that pupil-curriculums are identical within given groups; it is useful where there is much homogeneity in subject selection. Exclusive use of class sections implies that all the pupils can be classified in a small number of groups as regards their selection of studies. This means that in the whole school there will be relatively few types of program; in other words the whole organization is of a relatively simple structure. There are many large high schools in the West where, above the first term, there are almost as many program types as there are pupils, the diversity being due to freedom in choosing subjects, in changing curriculums, and in promoting by subject, the latter producing variation in grade. In a more complicated situation such as this the real unit of schedule organization is the individual pupil. Class section organization is the more primitive, being inherited from the time when a high school was organized in four classes, the members of which all pursued the same subjects and were promoted on the "all or none" plan; growing numbers necessitated no organizing process more difficult than simple division of the class into sections. The natural tendency in high schools has been to retain the class section as long as it was workable and when so retained it has usually hindered subject selection except along defined lines; it has channelized the curriculum. Choices could be made along lines specifically recognized in the class section schedules but otherwise only by accident. But if a program of studies is to be administered with the liberality theoretically assumed it does not take much mathematical insight to see that the number of possible subject groupings is likely to be much greater than the number of letters in any alphabet. In one of the terms in a Western city there are 23 choices, and the number of combinations of 23 things taken 4 at a time, as given by the formula $_{23}C_4 = \frac{n(n-1)\ldots(n-r+1)}{r!}$ amounts to 8855, without going outside the offerings for that one term! It should be evident that for more diversified and complicated situations a more generalized method of organizing based on the individual pupil as the unit may be required. And it may be said in passing that all the excellent final results worked out by Mr. Richardson under the limitations of the class section organization can also be attained by more generalized methods without the possibility of any mechanical restrictions due to the use of the class section device. Mr. Richardson's essay shows that he personally employs his method in such a way as to obviate unnecessary restriction by it, but there are many schools in which a very serious mechanical restriction of this kind exists. The reviewer believes in a more generalized method based on the individual pupil as the unit but would admit the concept of the class section as a subsidiary device to this extent: when the pupils' subject groups have been classified by types, any types that are present in appreciable numbers might be given section letters and assigned in a body. But in Western schools the types represented by only one or two pupils will often be found to constitute a very large proportion of the whole number.

Richardson says the most difficult and important part of program making is the distribution of recitation sections among the blocks [periods]. This step is of course the construction of the "general schedule" as distinguished from the individual pupils' schedules; it is the skeleton of the finished organization. It is true that if this step is adequately performed a perfect organization becomes possible, and if it is not adequately performed a perfect organization is not possible. The author says it is difficult to formulate procedure for this step but gives four principles, of which the most vital is the second: "In distributing recitation sections of like kind, follow the plan of widest distribution; that is, never schedule two sections of a kind in a block [period] until every other block [period] has one, never three until every other block [period] has two, etc." This principle is in fact at the basis of the generalized method in which class sections are disregarded or subordinated. A complementary principle seems not to be explicitly recognized by Richardson, *viz.:* "Effect optimum economy and efficiency in *articulation* of time elements both as regards pupil schedules and teacher schedules." This principle comes into play chiefly though not entirely in connection with double periods, (of which Girls' High School has relatively few). Double period or added period assignments grew up one at a time in different subjects in the older schools and the particular arrangement of periods was often left to the department heads with the result that each such subject had its own time conformation, none articulating with those of other subjects. By the use of coordinating intelligence in the principal's office it is possible to adopt double period arrangements by which the hours of one subject articulate with those of other subjects and the specific articulations provided by the general schedule are those which will be statistically most advantageous. On the old plan a double period was often completely spoiled for all other purposes although the subject taking it did not utilize more than a fraction of the total time.

A page and a half are devoted to illustrating "Indication of block [period] numbers upon the pupil's selection of studies sheet." This step really constitutes the making of the pupil schedules and presumably is the largest single stage in point of labor. Curiously the author fails to state who performs the work of this stage but my inference is that it is performed in the principal's office and not by the teachers.

"Equalization of recitation sections" is given a page. As we read between the lines this apparently is no great task in Girls' High School, which implies relative homogenity within groups and general simplicity in the situation. Under more complicated and diversified conditions equalization is a large task and one calling for varied and rather highly elaborated technique. To the reviewer the equalization process appears to be the central problem in the whole work of organization. Assuming that a general schedule has been constructed that provides all legitimate curriculum combinations or a maximum number of them, then the battle for perfect organization is won in the equalizing process. If complete equalization is attained, the organization is successful and can be carried into practice. If complete equalization is not possible then the schedule maker should back up and make such alterations in the general schedule as will remove the obstacles standing in the way of complete equalization. Richardson gives one method of effecting equalizations among sections but there are really many methods, all of which should be resorted to if necessary in order to attain a final balance.

Richardson describes the "making of pupils' programs by teachers" on pages 19, 20, but this stage is really merely a *copying* or transcription of the pupils' programs. Essentially the *making* of pupils' schedules is accomplished when the block [period] numbers are added to the original "selection of studies" sheets (page 16). However the home room teachers actually do "make" programs for pupils entering late and make adjustments for old programs on which change of election is requested. The home room teacher's part in the whole process includes the original advisement of pupils as to selection of studies, transmitting statistics of choice to the office, transcribing pupil schedules to cards intended for delivery, and miscellaneous final adjustments.

The nomenclature and symbolism employed in the book are very good. The use of the word "program" might better have been avoided by the substitution of "general schedule," "pupil's schedule" etc., inasmuch as the expressions "program of studies," "curriculum," and "course" are now somewhat generally accepted in the senses suggested by the Committee on College Entrance Requirements.[1]

Very few printed blanks or forms are shown and it is doubtful if these are as advantageously worked out as might be. The "Selection of Studies" blank is a sheet about 7 × 9. It is convenient for securing data but not for manipulation. A 3 × 5 or other standard size could readily be used by writing in the subjects selected instead of printing the entire list. The transcribed schedule is placed on a 4 × 6 card for delivery to the pupil, but there is no reason why a carbon copy of an original "selections" blank could not be used, saving some time and obviating such errors as might be due to transcription to a differently arranged form.

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[1] National Education Association. *Report of Committee on College Entrance Requirements*, 1899, p. 42.

The essential of good schedule organization in the reviewer's opinion are three: (1) a general schedule providing all legitimate curriculum combinations or a maximum number of these statistically most in demand, (2) a perfect equalization of sections, (3) availability for immediate operation of all classes the first day of the term. Mr. Richardson appears to be successful on all three counts in the administration of his own school. It may be said that there are few high schools that succeed in all three respects and many that succeed in no one of the three.

Richardson's book in the main discusses the results accomplished in and through the organization process. There is relatively little in the way of specific technique to be employed.

On the whole the essay is distinctly praiseworthy. One merit is found in the fact that it is brief. If the Boston type of "block" were eliminated it would also be quite understandable. High school principals need the book, as well as those teachers who engage in a responsible way in schedule work. Every high school principal should make himself fairly competent in detailed schedule work. In addition, in a large high school, some teacher should become a schedule expert capable of directing the whole process. A principal is never able to give his entire time to one problem, but there are junctures in which some competent person should be on the job with the schedule all the time.